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ABSTRACT

This report identifies how involvement with the arts provides unparalleled opportunities for learning that enables young people to reach for and attain higher levels of achievement. The research provides examples of and evidence why the arts should be more widely recognized for their current and potential contributions to the improvement of U.S. education. The experiences offered to many young people outside of the school environment are often limited in their purpose and resulting impact. They provide recreation, but no sense of creation. They provide recess, but no sense of success. Successful arts learning outside of schools can enhance the sense of accomplishment and well being among young people. Realizing the full potential of learning in and through the arts for all U.S. children requires heroic acts from all segments of society. Involvement with the arts must be a basic part of the learning experiences. Chapter titles in this report include: (1) "Involvement in the Arts and Human Development: General Involvement and Intensive Involvement in Music and Theater Arts" (James S. Catterall; Richard Chappleau; John Iwanaga); (2) "Imaginative Actuality: Learning in the Arts during the Nonschool Hours" (Shirley Brice Heath; Adelma Roach); (3) "Learning in and Through the Arts: Curriculum Implications" (Judith Burton; Robert Horowitz; Hal Abeles); (4) "Chicago Arts Partnerships in Education: Summary Evaluation" (James S. Catterall; Lynn Waldorf); (5) "Artistic Talent Development for Urban Youth: The Promise and the Challenge" (Barry Oreck; Susan Baum; Heather McCartney); (6) "'Stand and Unfold Yourself,' A Monograph on the Shakespeare & Company Research Study" (Steve Seidel); and (7) "Why the Arts Matter in Education, or Just What Do Children Learn When They Create an Opera" (Dennie Palmer Wolf). (LB)

CHAMPIONS OF CHANGE



THE IMPACT OF THE ARTS ON LEARNING

SO 031 346

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CHAMPIONS OF CHANGE

THE IMPACT OF THE ARTS ON LEARNING

EDITED BY EDWARD B. FISKE



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Edward B. "Ted" Fiske, the former Education Editor of the *New York Times*, is an internationally known education correspondent, editor, and lecturer who is widely regarded as one of the nation's leading education writers and observers of school reform. He is perhaps best known as the author of the best-selling *Fiske Guide to Colleges* (Times Books), an annual publication that is a standard part of the college admissions literature. In 1991, he published *Smart Schools, Smart Kids* (Simon & Schuster), which former U.S. Secretary of Education T. H. Bell called "the most important work on education to be published since *A Nation at Risk*."

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PREFACE

When young people are involved with the arts, something changes in their lives. We've often witnessed the rapt expressions on the faces of such young people. Advocates for the arts often use photographs of smiling faces to document the experience.

But in a society that values measurements and uses data-driven analysis to inform decisions about allocation of scarce resources, photographs of smiling faces are not enough to gain or even retain support. Such images alone will not convince skeptics or even neutral decision-makers that something exceptional is happening when and where the arts become part of the lives of young people.

Until now, we've known little about the nature of this change, or how to enable the change to occur. To understand these issues in more rigorous terms, we invited leading educational researchers to examine the impact of arts experiences on young people. We developed the *Champions of Change: The Impact of the Arts on Learning* initiative in cooperation with The Arts Education Partnership and The President's Committee on the Arts and the Humanities to explore why and how young people were changed through their arts experiences.

We believed that evidence could be collected that would help answer the questions of why positive changes occur and what might be done to replicate them. We expected the work to build on previous research concerning the arts and learning so that similar programs could become even more effective; we also hoped to increase the overall understanding of how the arts can impact learning.

We invited the initial *Champions of Change* researchers to examine well-established models of arts education. We then added research efforts that looked beyond specific programs to larger issues of the arts in American education. Finally, we expanded our concept beyond classrooms and schools to include out-of-school settings. We wanted to better understand the impact of the arts on learning, not just on formal education.

The Champions of Change Researchers

Over the last few years, seven teams of researchers examined a variety of arts education programs using diverse methodologies:

- James S. Catterall of the **Imagination Project at the University of California at Los Angeles** analyzed data on more than 25,000 students from the National Educational Longitudinal Survey to determine the relationship of engagement in the arts to student performance and attitudes. He also investigated the impact of intensive involvement in instrumental music and drama/theatre on student achievement.
- Shirley Brice Heath of **The Carnegie Foundation for the Advancement of Teaching and Stanford University**, with Adelma Roach, examined after-school programs for youth in poor communities. The researchers were interested in the qualities that made programs in the arts, sports, and community service effective sites for learning and development, and they identified features that made involvement with the arts the most powerful factor to success in and out of school.
- **The Center for Arts Education Research at Teachers College, Columbia University**, studied arts education programs within elementary and junior high schools. Researchers Judy Burton, Rob Horowitz, and Hal Abeles created a taxonomy of learning in the arts, and investigated the ways that learning in the arts affected learning across the curriculum and the conditions that made this possible.
- James Catterall and **The North Central Regional Educational Laboratory (NCREL)** evaluated the impact of the **Chicago Arts Partnership in Education (CAPE)**. The CAPE network of nine neighborhood-based partnerships of 23 local schools, 33 arts organizations, and 11 community-based organizations has pioneered new ways to integrate the arts with learning across the curriculum.

- Researchers at the **National Center for Gifted and Talented at the University of Connecticut** examined the Young Talent Program and other offerings of **ArtsConnection**, the largest outside provider of arts education programming to the New York City public school system. They also created a model of obstacles, success factors, and outcomes for talent development in the arts.
- Steve Seidel and researchers from **Harvard University's Project Zero** examined two education programs of **Shakespeare & Company**, a professional theatre company based in Lenox, Massachusetts. Researchers investigated the **National Institute on Teaching Shakespeare**, a high school teacher training program, as well as the **Fall Festival of Shakespeare**, an annual regional experience that involves teenagers in the study and performance of Shakespeare's works.
- Dennie Palmer Wolf and researchers from the **Performance Assessment Collaboratives for Education (PACE) of Harvard's Graduate School of Education** examined the **Creating Original Opera** program of **The Metropolitan Opera Guild**. This professional development program trains elementary and secondary school teachers in a process that enables young people to create, perform, and produce an original opera.

ACKNOWLEDGEMENTS

This research initiative had many champions. We are grateful to them all, and would like to recognize the contributions of several who made this entire collaboration possible.

First and foremost, we thank the late Ernie Boyer, former president of The Carnegie Foundation for the Advancement of Teaching and former U.S. Commissioner of Education, for encouraging us to work together. This partnership has been a highlight

of our professional lives, and we will always remember Ernie as an articulate advocate for the role of the arts in young lives.

Throughout the development and implementation of *Champions of Change*, several individuals provided critical support and counsel. They included Peter Gerber, Vartan Gregorian, Rich Gurin, Ellen Lovell, Margaret Mahoney, Harold Williams, and Jim Wolfensohn.

During the research process, we held several sessions to review work in progress and identify questions for the research to be funded. In addition to the artists, educators, and researchers named in this report, we benefited from the involvement of arts and education leaders from across the country. They included Terry Baker, Jim Berk, Bob Buckner, Jessica Davis, Elliott Eisner, Carol Fineberg, Rita Foy, Milton Goldberg, Derek Gordon, Doug Herbert, Sarah Howes, Peter Martinez, Ruth Mitchell, David O'Fallon, David Perkins, Terry Peterson, Jane Remer, Dan Scheinfeld, Josiah Spaulding, Robert Stake, and Louise Stevens.

Under the leadership of executive director Dick Deasy, The Arts Education Partnership has been a critical partner for the *Champions of Change* research initiative. We are also grateful to The President's Committee for the Arts and the Humanities, honorary chair First Lady Hillary Rodham Clinton, and executive director Harriet Mayor Fulbright for their involvement and support since the inception of this ambitious undertaking.

Finally, we thank the advisory committees and the boards of our respective institutions whose support made this extraordinary endeavor possible. We believe their significant commitment of resources for *Champions of Change* will help transform countless young lives for the better through the arts.

Jane L. Polin
The GE Fund

Nick Rabkin
The John D. and Catherine T. MacArthur Foundation



THE SECRETARY OF EDUCATION

Washington, D.C. 20202

The ultimate challenge for American education is to place all children on pathways toward success in school and in life. Through engagement with the arts, young people can better begin lifelong journeys of developing their capabilities and contributing to the world around them. The arts teach young people how to learn by giving them the first step: the desire to learn. *Champions of Change: The Impact of the Arts on Learning* also shows that the arts can play a vital role in learning how to learn, an essential ability for fostering achievement and growth throughout their lives.

American education is changing, and changing for the better. Who teaches, what is taught, where teaching takes place, and how teaching occurs are evolving dramatically in communities across America. And a key factor in changing American education for the better is to increase high quality arts learning in the lives of young Americans.

Why is American education in such flux? In simplest terms, the reason is because America is in transition. We are a more diverse society facing daunting demands from global social and technological innovation. The American economy is shifting from a manufacturing-driven engine to a services-driven enterprise. If young Americans are to succeed and to contribute to what Federal Reserve Chairman Alan Greenspan describes as our "economy of ideas," they will need an education that develops imaginative, flexible and tough-minded thinking. The arts powerfully nurture the ability to think in this manner.

Champions of Change: The Impact of the Arts on Learning provides new and important findings on actual learning experiences involving the arts. The report which follows presents these research findings, complete with ground-breaking quantitative and qualitative data and analysis, as articulated by leading American educational researchers. These researchers investigated the content, process, and results of learning in and through the arts. Perhaps what makes their findings so significant is that they all address ways that our nation's educational goals may be realized through enhanced arts learning. As the researchers discovered, learning in the arts can not only impact how young people learn to think, but also how they feel and behave.

The American public is demanding more than ever from our schools, and rightly so. Parents and other caregivers want to equip young people for professionally and personally rewarding careers, and they recognize that to do so we must give them greatly enriched experiences. As these researchers have confirmed, young people can be better prepared for the 21st century through quality learning experiences in and through the arts.

Richard Riley
Secretary, Department of Education

Our mission is to ensure equal access to education and to promote educational excellence throughout the Nation.

Executive Summary

WHAT THE ARTS CHANGE ABOUT THE LEARNING EXPERIENCE

As a result of their varied inquiries, the *Champions of Change* researchers found that learners can attain higher levels of achievement through their engagement with the arts. Moreover, one of the critical research findings is that the learning in and through the arts can help "level the playing field" for youngsters from disadvantaged circumstances.

James Catterall's analysis of the Department of Education's NELS:88 database of 25,000 students demonstrates that students with high levels of arts participation outperform "arts-poor" students by virtually every measure. Since arts participation is highly correlated with socioeconomic status, which is the most significant predictor of academic performance, this comes as little surprise. The size and diversity of the NELS database, however, permitted Catterall to find statistical significance in comparisons of high and low arts participants in the lowest socioeconomic segments. This closer look showed that high arts participation makes a more significant difference to students from low-income backgrounds than for high-income students. Catterall also found clear evidence that sustained involvement in particular art forms—music and theater—are highly correlated with success in mathematics and reading.

These findings are enriched by comparisons of student achievement in 14 high-poverty schools in which the Chicago Arts Partnerships in Education (CAPE) has developed innovative arts-integrated curricula. The inspiring turnaround of this large and deeply troubled school district is one of the important education stories of this decade. Schools across Chicago, including all those in this study, have been improving student performance. But, when compared to arts-poor schools in the same neighborhoods, the CAPE schools advanced even more quickly and now boast a significant gap in achievement along many dimensions.

Schools are not the only venue in which young people grow, learn, and achieve. Shirley Brice Heath

spent a decade studying dozens of after-school programs for disadvantaged youth. These programs were broadly clustered into three categories—sports/academic, community involvement, and the arts. This research shows that the youth in all these programs were doing better in school and in their personal lives than were young people from the same socioeconomic categories, as tracked by NELS:88.

To the researchers' surprise, however, the youth in the arts programs were doing the best. Skeptical about this finding, Heath and her colleagues looked more closely at the arts programs and the youth participating in them. Although the youth in the arts programs were actually at greater "risk" than those in the other programs, the researchers found that characteristics particular to the arts made those programs more effective. They now believe that a combination of "roles, risks, and rules" offered in the arts programs had a greater impact on these young lives.

Another broad theme emerges from the individual *Champions of Change* research findings: the arts no longer need to be characterized solely by either their ability to promote learning in specific arts disciplines or by their ability to promote learning in other disciplines. These studies suggest a more dynamic, less either-or model for the arts and overall learning that has more of the appearance of a rotary with entrances and exits than of a linear one-way street.

This rotary of learning provides the greater access to higher levels of achievement. "Learning in and Through the Arts" (LITA) and other *Champions of Change* studies found much evidence that learning in the arts has significant effects on learning in other domains. LITA suggests a dynamic model in which learning in one domain supports and stimulates learning in others, which in turn supports and stimulates learning in a complex web of influence described as a "constellation." LITA and the other researchers provide compelling evidence that student achievement is heightened in an environment with high quality arts education offerings and a school climate supportive of active and productive learning.

Why the Arts Change the Learning Experience

When well taught, the arts provide young people with authentic learning experiences that engage their minds, hearts, and bodies. The learning experiences are real and meaningful for them.

While learning in other disciplines may often focus on development of a single skill or talent, the arts regularly engage multiple skills and abilities. Engagement in the arts—whether the visual arts, dance, music, theatre or other disciplines—nurtures the development of cognitive, social, and personal competencies. Although the *Champions of Change* researchers conducted their investigations and presented their findings independently, a remarkable consensus exists among their findings:

- The arts reach students who are not otherwise being reached.

Young people who are disengaged from schools and other community institutions are at the greatest risk of failure or harm. The researchers found that the arts provided a reason, and sometimes the only reason, for being engaged with school or other organizations. These young people would otherwise be left without access to any community of learners. The studies concerning ArtsConnection, CAPE, and learning during non-school hours are of particular significance here.

- The arts reach students in ways that they are not otherwise being reached.

Other recent educational research has produced insights into different styles of learning. This research also addresses examples of young people who were considered classroom failures, perhaps “acting out” because conventional classroom practices were not engaging them. These “problem” students often became the high-achievers in arts learning settings. Success in the arts became a bridge to learning and eventual success in other areas of learning. The ArtsConnection study provides case studies of such students; the “Learning In and Through the Arts”

research examines the issue of learner self-perception in great depth.

- The arts connect students to themselves and each other.

Creating an artwork is a personal experience. The student draws upon his or her personal resources to generate the result. By engaging his or her whole person, the student feels invested in ways that are deeper than “knowing the answer.” Beyond the individual, Steve Seidel and Dennie Palmer Wolf show how effective arts learning communities are formed and operated. James Catterall also describes how the attitudes of young people toward one another are altered through their arts learning experiences.

- The arts transform the environment for learning.

When the arts become central to the learning environment, schools and other settings become places of discovery. According to the Teachers College research team and those examining the CAPE schools, the very school culture is changed, and the conditions for learning are improved. Figurative walls between classrooms and disciplines are broken down. Teachers are renewed. Even the physical appearance of a school building is transformed through the representations of learning. The Heath research team also found “visible” changes in nonschool settings.

- The arts provide learning opportunities for the adults in the lives of young people.

Those held responsible for the development of children and youth—teachers, parents, and other adults—are rarely given sufficient or significant opportunities for their own continuing education. With adults participating in lifelong learning, young people gain an understanding that learning in any field is a never-ending process. The roles of the adults are also changed—in effective programs, the adults become coaches—active facilitators of learning. Heath and other researchers here describe the altered dynamics between young and less young learners.

- The arts provide new challenges for those students already considered successful.

Boredom and complacency are barriers to success. For those young people who outgrow their established learning environments, the arts can offer a chance for unlimited challenge. In some situations described in the research, older students may also teach and mentor younger students. In others, young people gain from the experience of working with professional artists. The ArtsConnection researchers in general, and James Catterall in particular, explored the impact of intensive involvement in specific art disciplines.

- The arts connect learning experiences to the world of real work.

The world of adult work has changed, and the arts learning experiences described in the research show remarkable consistency with the evolving workplace. Ideas are what matter, and the ability to generate ideas, to bring ideas to life and to communicate them is what matters to workplace success. Working in a classroom or a studio as an artist, the young person is learning and practicing future workplace behaviors. A company is a company, whether producing an opera or a breakthrough technological service.

How the Arts Change the Learning Experience

The programs and schools examined by the *Champions of Change* researchers were selected because they appeared to be models of excellence that were making a real difference to young people. Their research helps us identify the principles and requirements that make these arts learning models work. By helping to better define the characteristics of effective arts learning programs, the *Champions of Change* researchers have also done a great service.

Education reformers and researchers have learned a great deal about "what works" in recent years. In examining the work of Shakespeare & Company, Steve Seidel cites the general characteristics of "project-based learning" as factors that also support effective

arts learning. In *Real Learning, Real Work*, author Adria Steinberg identifies six elements that are critical to the design of project-based learning: authenticity, academic rigor, applied learning, active exploration, adult relationships, and assessment practices. Seidel also emphasizes that the best assessment of a person's understanding is a product that "puts that understanding to work." Learning is deepest when learners have the capacity to represent what they have learned, and the multiple disciplines of the arts all provide modes of representation.

The quality arts learning experiences described by the *Champions of Change* researchers regularly contain these project-based learning elements. The best programs display them in great breadth and depth. To be effective, the arts learning experience will also

- Enable young people to have direct involvement with the arts and artists.

Young people become and see themselves as artists. Whether creating art works, as in the Creating Original Opera program, or performing, as in the Fall Festival of Shakespeare program, or perhaps even teaching younger student artists, as in the ArtsConnection program, the students learn various disciplines through hands-on arts experiences. They actively engage with artistic content, materials, and methods.

- Require significant staff development.

The best teachers are life-long students. The teachers involved in the staff development programs examined by the *Champions of Change* researchers describe life-changing experiences that transform their professional lives. High-impact programs demand both adequate staff preparation and strong administrative support. Well-trained staff and teachers also become leaders for institutional and systemic change.

- Support extended engagement in the artistic process.

Opportunities to achieve artistic and learning excellence cannot be confined to forty-five minute

time periods. Sustained engagement during individual sessions as well as expanded program length support enhanced learning opportunities. These learning experiences are also not limited to place; school is just one of many settings where this learning occurs. Superior results are also associated with the concept of "practice" and the development of a sense of "craft."

- **Encourage self-directed learning.**

Students learning in and through the arts become their own toughest critics. The students are motivated to learn not just for test results or other performance outcomes, but for the learning experience itself. According to the ArtsConnection study, these learners develop the capacity to experience "flow," self-regulation, identity, and resilience—qualities regularly associated with personal success.

- **Promote complexity in the learning experience.**

Students who might otherwise complain of boredom become fully challenged. Unlike other learning experiences that seek right or wrong answers, engagement in the arts allows for multiple outcomes. Seidel found that when "refusing to simplify" Shakespeare's challenging texts, students became passionately engaged in learning classic works which high schoolers so often consider boring. Effective learning in the arts is both complex and multi-dimensional.

- **Allow management of risk by the learners.**

Rather than see themselves as "at-risk," students become managers of risk who can make decisions concerning artistic outcomes and even their lives. The students learn to manage risk through "permission to fail," according to the Shakespeare & Company study, and then take risks "to intensify the quality of their interactions, products, and performances," according to Heath and her colleagues.

- **Engage community leaders and resources.**

Another recent study, *Gaining the Arts Advantage: Lessons from School Districts That Value Arts Education*, found that "the single most critical

factor in sustaining arts education in (their) schools is the active involvement of influential segments of the community in shaping and implementing the policies and programs of the district." Similarly, effective arts learning out of school also requires the active engagement of the community. The CAPE and Heath studies show a process that attracts and builds on this engagement from parents and other community members.

Policy Implications of the Champions of Change Research

The *Champions of Change* studies examined the messy, often hard-to-define real world of learning, both in and out of schools. As a result, these research findings have immediate relevance for both policy and practice in American education today.

For example, if we now know that arts experiences help level the educational playing field for disadvantaged students, as revealed by James Catterall, then we need to bring more proven arts learning resources to these students. If arts learning can help energize or re-energize the teaching workforce, as described by Steve Seidel, then we must look to the arts both as a vehicle for preparing entrants to the teaching profession and as a means of supporting its more-experienced members. Looking beyond classrooms, Shirley Brice Heath found the profound impact the arts can have on learning for youth outside school settings. If this is so, we must expand quality arts learning programs outside of schools as well.

In the CAPE model, the researchers find that arts learning can have a defined impact on the academic performance of students in an urban setting. If well-constructed partnerships between school and arts organizations can increase student achievement, then such partnerships must be nurtured and replicated. In another urban program, ArtsConnection researchers define the role of the arts in enabling students to overcome obstacles to success; again, such experiences should be made more widely available. Researcher Dennie Palmer Wolf describes the impact of group

versus individual learning generated through a collaborative arts experience. For this approach to grow, a more serious commitment to developing communities of arts learners, rather than just opportunities for "stars," is required. If sustained, integrated, and complex projects, like producing an opera, a Shakespeare production, or a visual arts exhibition, significantly deepen the learning process, as these studies suggest, then school schedules must also be modified to make such experiences possible.

The findings of the individual research studies are worthy of the reader's careful review.

We owe a great debt to these researchers for their diligence and insights; we can only repay this debt by heeding their words and seeking systemic ways to make the arts a meaningful part of every American child's life. Together, we can make the everyday learning experiences of young Americans less ordinary and more extraordinary.

CONCLUSION

These *Champions of Change* studies demonstrate how involvement with the arts provides unparalleled opportunities for learning, enabling young people to reach for and attain higher levels of achievement. The research provides both examples and evidence of why the arts should be more widely recognized for its current and potential contributions to the improvement of American education.

Similarly, the experiences we offer too many young people outside of school are often limited in their purpose and resulting impact. They provide recreation, but no sense of creation. They provide recess, but no sense of success. Arts learning outside of schools can also enhance the sense of accomplishment and well-being among our young people.

This research provides compelling evidence that the arts can and do serve as champions of change in learning. Yet realizing the full potential of learning in and through the arts for all American children will require heroic acts from all segments of our society. With the 21st century now upon us, we, too, must be champions of change; we must meet and exceed the challenge of giving our young people the best possible preparation we can offer them. To do so, we must make involvement with the arts a basic part of their learning experiences. In doing so, we will become champions for our children and their children.

**Involvement in the Arts and
Human Development:**
General Involvement and Intensive Involvement
In Music and Theater Arts

JAMES S. CATTERALL

RICHARD CHAPLEAU

JOHN IWANAGA

*The Imagination Project at UCLA Graduate School of
Education & Information Studies, University of California
at Los Angeles, September 1999*

INTRODUCTION

This report presents results from our work during the past two years exploring interactions between the arts and human development and achievement. This research enlists the National Educational Longitudinal Survey (NELS:88)¹, a panel study which has followed more than 25,000 students in American secondary schools for 10 years. The work addresses developments for children and adolescents over the period spent between the 8th and 12th grades, i.e. late middle school through high school.

The first phase of the work examines involvement in the arts generally—across all disciplines. The second phase examines the potential importance of sustained involvement in a single discipline, here using instrumental music and the theater arts as case examples. We focus on these two arts disciplines because of related research suggesting links between music and cognitive development and between drama and theater in education and various skill and attitude developments.

Our findings, presented in more detail below, can be summarized in three main sets of observations:

- (1) **Involvement in the arts and academic success.** Positive academic developments for children engaged in the arts are seen at each step in the research—between 8th and 10th grade as well as between 10th and 12th grade. The comparative gains for arts-involved youngsters generally become more pronounced over time. Moreover and more important, these patterns also hold for children from low socio-economic status (SES) backgrounds.²
- (2) **Music and mathematics achievement.** Students who report consistent high levels of involvement in instrumental music over the middle and high

school years show significantly higher levels of mathematics proficiency by grade 12. This observation holds both generally and for low SES students as a subgroup. In addition, absolute differences in measured mathematics proficiency between students consistently involved versus not involved in instrumental music grow significantly over time.

- (3) **Theater arts and human development.** Sustained student involvement in theater arts (acting in plays and musicals, participating in drama clubs, and taking acting lessons) associates with a variety of developments for youth: gains in reading proficiency, gains in self concept and motivation, and higher levels of empathy and tolerance for others. Our analyses of theater arts were undertaken for low SES youth only. Our presumption was that more advantaged youngsters would be more likely to be involved in theater and drama because of attendance at more affluent schools and because of parental ability to afford theater opportunities in the community or private sectors.

We turn first to a brief summary of our initial release of data from this project and then to presentations of some of the important observations from the later research.

I. Initial Findings — Involvement in the Arts Generally and Student Academic Outcomes

In mid 1997 we released a report of the effects of involvement in the visual and performing arts on student achievement in middle and high school. Published in the *Americans for the Arts* monograph series as "Involvement in the Arts and Success in Secondary School,"³ this analysis was based on a multi-year survey of more than 25,000 students sponsored by the United States Department of Education. The sample was created to be representative of the nation's population of secondary students. Our study

¹ NELS:88 is managed by the National Center for Education Statistics at the Office of Educational Research and Improvement, United States Department of Education. The data and code books are available in various forms on CD Rom media for public use.

² SES, or socioeconomic status, is a measure of family education level, income, and type of job(s) held by parents.

³ James S. Catterall, *Involvement in the Arts and Success in Secondary School*. Washington, DC: Americans for the Arts monograph series, No. 9, 1998.

offered the first reported analysis of information in the NELS:88 survey about student participation in the arts. We used a definition of "involvement in the arts" that gave students credit for taking arts-related classes in or out of school as well as involvement and leadership in school activities such as theater, band, orchestra, chorus, dance, and the visual arts.

Our analyses found substantial and significant differences in achievement and in important attitudes and behaviors between youth highly involved in the arts on the one hand, and those with little or no arts engagement on the other hand. In addition—and more significant from a policy standpoint—the achievement differences between high- and low-arts youth were also significant for economically disadvantaged students. Twenty of the differences we found favoring arts-involved

students were significant at the $p < .001$ level. (This means that the odds of the differences being caused by pure chance were smaller than one in one thousand.) Four differences were significant at the $p < .01$ level. The only difference not significant was performance on the history geography tests for low SES children.

Figure 1 shows some of the key differences we found between students highly involved in the arts and non-involved students, both for all students in the NELS sample and for the low SES quartile respectively. The figure includes both academic measures and also indicators of students' regard for community service and measures of their television watching habits.

Figure 1 shows consistently more favorable outcomes for students involved in the arts—higher achievement, staying in school, and better attitudes

Figure 1: Comparisons of High Arts vs. Low Arts Students in Grades 8 and 10, All vs Low SES Background

Grade 8 Academic Performance	All Students		Low SES Students	
	High Arts	Low Arts	High Arts	Low Arts
Earning mostly As and Bs in English	79.2%	64.2%	64.5%	56.4%
Scoring in top 2 quartiles on std. tests	66.8%	42.7%	29.5%	24.5%
Dropping out by grade 10	1.4%	4.8%	6.5%	9.4%
Bored in school half or most of the time	42.2%	48.9%	41.0%	46.0%
Grade 10 Academic Performance				
Scoring in top 2 quartiles, Grade 10 Std. Test Composite	72.5%	45.0%	41.4%	24.9%
Scoring in top 2 quartiles in Reading	70.9%	45.1%	43.8%	28.4%
Scoring in top 2 quartiles in History, Citizenship, Geography	70.9%	46.3%	41.6%	28.6%
Grade 10 Attitudes and Behaviors				
Consider community service important or very important	46.6%	33.9%	49.2%	40.7%
Television watching, weekdays				
percentage watching 1 hour or less	28.2%	15.1%	16.4%	13.3%
percentage watching 3 hours or more	20.6%	34.9%	33.6%	42.0%

about school and community. We also see marked differences in television watching habits, where arts involved youngsters watch considerably less.

Both our earlier and present efforts provide evidence that achievement differences favoring youngsters involved in the arts are not simply a matter of parent income and education levels, which do tend to line up with children having more visual and performing arts in their lives. Another result, as we spell out in more detail below, is that consistent involvement in the arts shows up in increased advantages for arts-rich youngsters over time, through 10th grade in our first analyses and through 12th grade in our later studies.

Summarizing early results.

A case for the importance of the arts in the academic lives of middle and early high schoolers was the primary suggestion of our earlier research. The research did not definitively explain the differences shown, nor was it able to attribute student successes unequivocally to the arts. This caution rises in large part because panel studies are not well suited to unambiguous causal modeling. Nonetheless, the differences were striking, and the chief confounding variable, student family background, was reasonably accounted-for in the work.

There are several theoretical rationales for why the arts might matter in the ways suggested. A previous work by the first author explores much of this ground and points to distinct possibilities.⁴ These are grouped into major categories including the various roles that the arts play in promoting cognitive development—from specific relations such as the influence of music on perception and comprehension in mathematics to the more general roles of imagery and representation in cognition. The arts serve to broaden access to meaning by offering ways of thinking and ways of representation consistent with the spectrum of intelligences scattered unevenly across our population—for example, resonating with the multiple and differing intelligences identified by Howard Gardner

at Harvard.⁵ The arts have also shown links to student motivation and engagement in school, attitudes that contribute to academic achievement.⁶ Arts activities also can promote community—advancing shared purpose and team spirit required to perform in an ensemble musical group or dramatic production, or to design and paint an urban mural. With community surely comes empathy and general attachment to the larger values of the school and the adult society which high school students will soon join.

Readers will note that we do not address here anything having to do with achievement in the arts per se, itself an important domain apart from any connections between the arts and more traditional academic success. The NELS: 88 data base shows a marked absence of indicators of achievement in the arts—a problem that should not go unnoticed as future national longitudinal surveys are planned.

Finally, even in the absence of causal attributions yet to be proved, the perspectives we show elicit another reason to promote more involvement in the arts for more youngsters. This is the likely positive peer associations accompanying involvement in the arts. Our analysis of the NELS:88 survey established, for the first time in any comprehensive way, that students involved in the arts are doing better in school than those who are not—for whatever constellation of reasons. Compendia of research on academic achievement going back three decades and more argue that the motivation and success of one's peers has an influence on how a youngster does in school. At very least, even our early comparisons support the contention that rubbing shoulders with

⁴ See Jaye T. Darby and James S. Catterall. *The fourth R: The arts and learning*. Teachers College Record. (1995).

⁵ See Howard Gardner: *Frames of Mind* (New York: Basic Books), 1983; and *The Arts and Human Development* (New York: John Wiley), 1973.

⁶ See Morrison Institute of Public Policy and The National Endowment for the Arts: *Schools, Communities, and the Arts: A Research Compendium*. Tempe, AZ: The Morrison Institute for Public Policy, Arizona State University and the National Endowment for the Arts (1995). Especially summary of report on the National Longitudinal Study of Different Ways of Knowing (The Galef Institute, Los Angeles). See also the monograph reporting evaluations of the Chicago Arts Partnerships in Education, this volume.

arts-involved youngsters in the middle and high school years is typically a smart idea when it comes to choosing friends and activities.

More Recent Findings

Grants to the Imagination Project at UCLA from the GE Fund in September of 1997 and December of 1998 supported extensions of this research. There were three general priorities for the newly-funded work:

One priority was to extend the analyses describing developments up to grade 10 through the balance of high school and beyond. We here report results through grade 12.

A second priority was to begin to conceptualize involvement in the arts in ways that could capture the potential value of "depth" of involvement. Our earlier work relied on measures of involvement that tended to reward widespread involvement over many artistic pursuits; the most "involved" students in our first study were largely those who attached themselves vigorously to several disciplines. There are good reasons, however, to believe that intensive involvement in a single discipline would act differently than scattered attention to diverse artistic endeavors. This is because different effects are touted for different arts disciplines, and depth of involvement in one might be expected to intensify particular effects.

A third priority for the research was to explore possible connections between involvement in music and cognitive development. Much interest has been generated by recent studies in neuroscience linking certain types of music training with positive developments in

cognitive functioning. (We refer here especially to various studies of Gordon Shaw, Frances Rauscher, and others over the past 6 years described below.)

Our first effort to explore the impact of depth of experience in the arts focused on students who reported sustained involvement in instrumental music, blending priorities two and three. Our second effort was to examine students who reported sustained involvement in the theater arts. The theoretical rationales for inquiry aimed at theatre derive largely from a literature focused on theater in education and drama in the classroom produced mainly over several decades of research and scholarly writing in Great Britain.

Extending Analyses of Effects of Involvement in the Arts through Grade 12

Involvement in the Arts as of Grade 12. Before examining outcomes, we first found that levels of student involvement in the arts declined between grades 10 and 12. As of the spring of the senior year, twelfth graders fell off in reported involvement in the arts when compared to grade 10. For example, whereas 22.7 percent of 10th graders reported involvement in band or orchestra and 23.3 percent showed involvement in chorus or choir, fewer than 20 percent showed involvement in any school musical group by grade 12, as shown in Figure 2. Figure 2 also shows that the percentages of students taking out-of-school classes in music, art, or dance also declined markedly between grades 10 and 12. Especially notable is the drop from more than 11 percent to fewer than 3 percent of students taking daily out of school lessons in grade 10 versus grade 12.

Figure 2: Percentages of Students Involved in Arts Related Activities Reported in the NELS:88 Data Base, Grade 12 vs. Grade 10.

Grade 12			Grade 10	
Participates in:	School Music Group	19.5%	Band or Orchestra	22.7%
	School Play/Musical	15.0	Chorus or Choir	23.3%
Takes out-of-school classes in Music, Art, or Dance:			Takes out-of-school classes in Music, Art, or Dance:	
rarely or never		85.9%	rarely or never:	74.2%
less than 1/week		4.2	less than 1/week	5.8
1-2 per week		7.4	1-2 per week	8.6
every day or almost		2.5	every day or almost	11.3

High- Versus Low-Arts Involvement and General Student Performance.

One of our objectives in the latest phase of this research was to extend earlier analyses through grade 12. In Figure 3, we recount key observed differences between high- and low-arts involved students as of grades 8 and 10, and then show differences accruing through grade 12.

As seen in Figure 3, performance differences between arts-involved and non-involved students remained about the same across grade levels in nominal terms—showing up typically as 16 to 18 percentage point differences. For example, the percentage of low-arts students scoring in the top half of the standardized test distribution was 47.5 percent in grade 10, while 65.7 percent of high-arts students scored above the test score

median—an 18.2 percentage point difference at that grade level. At grade 12, the respective figures are 39.3 and 57.4 percent, an 18.1 percentage point difference.

Within the general trends in achievement differences, it can be seen that the relative advantage of involvement in the arts increased appreciably over time. This is shown in the relative sizes of the subgroups doing well from the arts-involved and non-involved groups respectively, which grow over time. By the 12th grade, the nominal 18 percentage point difference amounts to a 46 percent advantage for the high-arts group where 57.4 percent scored well compared to 39.3 percent from the low-arts group ($57.4/39.3 = 1.46$ or a 46 percent advantage).

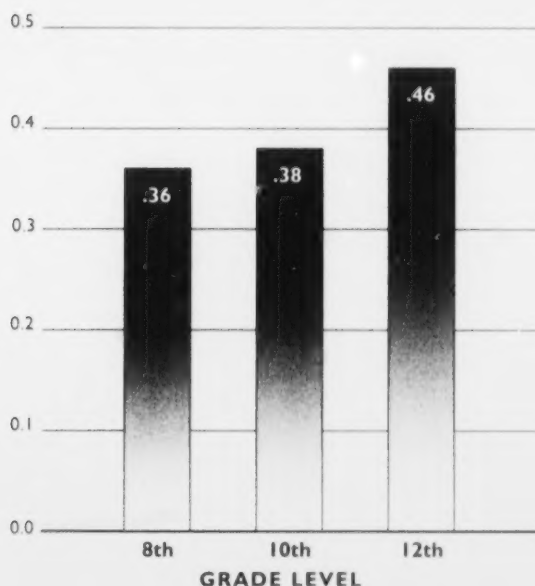
Figure 4 shows what the comparative achievement advantages for involvement in the arts look like over

Figure 3. Involvement in the Arts and Academic Performance

8th Grade		
% in each group	High Involvement	Low Involvement
Earning mostly As and Bs in English	82.6%	67.2%
Top 2 quartiles on std. tests	67.3%	49.6%
Dropping out by grade 10	1.4%	3.7%
Bored in school half or most of time	37.9%	45.9%
10th Grade		
% in each group	High Involvement	Low Involvement
Top 2 quartiles std. tests	65.7%	47.5%
Top 2 quartiles Reading	64.7%	45.4%
Level 2 (high) Reading Proficiency	61.0%	43.5%
Top 2 quartiles History/Geography/Citizenship	62.9%	47.4%
12th Grade		
% in each group	High Involvement	Low Involvement
Top 2 quartiles std tests	57.4%	39.3%
Top 2 quartiles Reading	56.5%	37.7%
Level 2 or 3 (high) Reading Proficiency	58.8%	42.9%
Top 2 quartiles History/Geography/Citizenship	54.6%	39.7%

time for all students; all group differences (except the history/geography test for low SES students) are significant at greater than a 99 percent confidence level. Most remain significant at the .999 confidence level.

Figure 4. Comparative Advantages in Composite Test Scores, High vs. Low Arts, Grades 8 through 12



This general pattern of increasing advantages is replicated for various measures in addition to composite test scores—meaning that high arts youngsters did comparatively better on multiple measures as they passed from grade 8 to grade 12.

Socio-Economic Status and Involvement in the Arts

As shown in Figure 5 below, we continue to find substantial differences in the family income and education levels between our high arts and low arts groups. The probability of being “high arts” remains almost twice as high for students from economically advantaged families, and the probability of low arts involvement is about twice as high if one comes from an economically disadvantaged family.

This is why the following analyses of achievement restricted to low SES students are very important. Not

only are achievement issues typically more profound for children from families with less education and fewer economic resources, but high SES children simply have more opportunities to be involved in the arts. When we compare groups of students by arts involvement only, the differences are more likely to be caused by differences in family background than anything else.

Figure 5: Probability of High vs. Low Arts Involvement by Student SES

Probability of High Arts Involvement

High SES Quartile	.320
Low SES Quartile	.178

Probability of Low Arts Involvement

High SES Quartile	.197
Low SES Quartile	.385

Achievement Differences, Low SES Students

Here we begin with our findings concerning grade 8, grade 10, and grade 12 performance differences within the low SES quartile—the fourth of all students at the bottom of the family income and education ladder. This group represents families where parents typically graduated from high school and went no further with their education, as well as families where parents never finished high school.

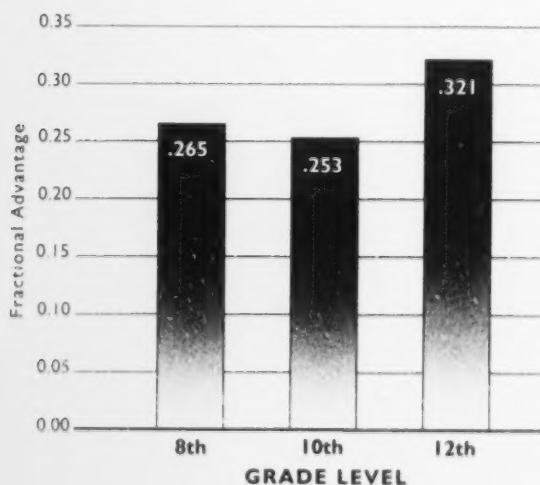
As shown in Figure 6, the patterns shown for low SES students over time bear similarities to those shown for all students. The percentage differences in performance are smaller in nominal terms—for example 8 to 10 percent lower for test scores. But once again, the relative advantage for arts-involved youngsters increases over the middle and high school years, and especially between grades 10 and 12.

Figure 7 on the following page illustrates this pattern for composite standardized test scores where the comparative advantage for high arts, low-SES, youngsters is about 32 percent by grade 12:

**Figure 6: Involvement in the Arts and Academic Performance and Attitudes,
Low SES Students (Low Parent Education/Income)**

8th Grade		
% in each group	High Involvement	Low Involvement
Top 2 quartiles std tests	37.7%	29.8%
Mostly As and Bs in English	71.4%	58.8%
Dropping out by grade 10	3.5%	6.5%
Bored in school half or most of time	32.9%	40.1%
10th Grade		
% in each group	High Involvement	Low Involvement
Top 2 quartiles std tests	35.2%	28.1%
Top 2 quartiles reading	37.3%	28.7%
Level 2 Reading Proficiency	39.6%	29.2%
Top 2 quartiles History/Geography/Citizenship	34.8%	30.4%
12th Grade		
% in each group	High Involvement	Low Involvement
Top 2 quartiles std tests	30.9%	23.4%
Top 2 quartiles reading	32.9%	23.6%
Top 2 quartiles History/Geography/Citizenship	30.7%	25.2%
Level 2 or 3 Reading Proficiency	37.9%	30.4%

**Figure 7. Comparative Advantages, High vs. Low Arts,
Low SES Students, Grades 8–12, Standardized Test Scores**



This concludes our presentation concerning differences between students generally highly involved in the arts as compared to their non-involved peers. The main points of the analysis so far are that arts-involved students do better on many measures, their performance advantages grow over time, and that these two general performance comparisons also hold for low SES children. We will probe these findings in more detail in the discussion concluding this monograph. We turn now to two cases of intensive involvement in specific arts disciplines.

II. Intensive Involvement Within an Arts Discipline. The Cases of Instrumental Music and Drama/Theater.

A new strain of our work, and a departure from our first monograph which adopted a more general orientation to involvement in the arts, is a study of youngsters who exhibit very high levels of involvement within a single arts discipline over the secondary school years. Readers may recall that the analyses reported above were built on a conception of involvement defined as "the more involvement in more arts, the higher the student's involvement score." As such, a student who only participated in an orchestra and took music lessons, no matter how intensively, would not have been a high-arts student in our first analyses.

Yet intensive involvement in a single discipline should probably be thought to be even more important developmentally than high levels of more diverse involvement in the arts. This is surely true if specific arts act in specific ways on cognition or other developments. That is an assumption we are comfortable making and could defend at some length. In general, the argument is that different art forms involve different skills and different sorts of human interaction. In short, they impact cognitive and motor processes differently and should be expected to result in different outcomes. We will save a more in-depth discussion of this for another paper.

Involvement in Instrumental Music

Involvement in Instrumental Music and Cognitive Development in Mathematics. We were interested in exploring involvement in music because of accumulated studies over the past 7-8 years suggesting that certain kinds of musical experiences, especially keyboard training, seem to produce effects on cognitive functioning in young children. Other potentially important aspects of the musical experience are learning to read music and to associate musical notation with abstract concepts of time, rhythm, and pitch. These experiences at first glance appear to involve forms of mathematical reasoning—the fractional senses

of different musical notes (whole notes, half notes, and so on), the relative distances of notes within scales, the perfect doubles and halves in the pitch frequencies of octaves, and even the relations among dynamics within a musical passage. For some musical instruments, such as the piano, there is an associated geometry of music that probably reinforces the spatial-temporal reasoning effects noted by Rauscher et al. For other instruments, such as the strings, there are complex linear geometries associated with pitch that bring spatial reasoning to the production of musical sounds and phrases.

What has research on music suggested? While it would appear that the domains of music and mathematics are widely divergent, an increasing number of studies focusing on participation in musical activity and cognitive development in mathematics suggest that the two are closely related. An important skill developed while a child begins the study of music is reading musical notation, the symbol system which represents elements of rhythm and pitch, the fundamental building blocks of music. It is the analysis of music at this basic level which reveals the most obvious connection between music and mathematics (Bahna-James, 1991).

Rhythm, here defined as a numerical pattern of beats occurring over time, is represented by a series of notes ranging from whole notes (usually 1 beat per measure) to quarter notes (4 beats per measure) to eighth, sixteenth and even 32nd and 64th notes. Two fundamental mathematical skills are required in order to understand the time meaning represented in a note: the ability to count beats, which allows for an understanding of the absolute value of a note in a measure, and general fractional or proportional sense, which allows for an understanding of each note type in relation to the other.

A second feature depicted by musical notation is pitch or frequency, which denotes the relative tonal distances between notes within scales, chords, and intervals. These relationships in and of themselves are abstract and difficult to conceptualize; the use of musical instruments such as the violin, clarinet, or piano

helps make these tonal relationships concrete. The keyboard in particular has been singled out in research by Rauscher and Shaw (1997) on spatial-temporal reasoning as a form of reasoning ability postulated to directly affect mathematical understanding. The results from their work show that keyboard training is a more effective intervention on spatial-temporal reasoning skills than singing lessons and computer training and suggest that mastering a musical instrument aids in developing mathematical understanding.

Initial studies correlating the grades of secondary school students in music theory and math classes (Bahna-James, 1991) as well as teacher evaluation of instrumental and scholastic achievement for elementary school students (Klinedinst, 1991) revealed a variety of significant relationships between mathematics achievement and music performance. These included sight-singing and arithmetic, algebra and geometry; pitch and arithmetic; and finally tonal relationships and arithmetic and algebra. The work by Bahna-James (1991) further showed that the correlation between math grades and music theory grades of secondary school students increases when the mathematics being taught is of a more elementary level and the numerical relationships are simple. Some findings provide additional support for the notion that the fundamental components of music are inherently mathematical in nature.

Research by Shaw et al. (Boettcher, Hahn & Shaw, 1994; Grandin, Peterson & Shaw, 1998; Graziano, Shaw & Wright, 1997; Rauscher & Shaw, 1997; Rauscher & Shaw, 1998) drawing in part from the seminal work of Chase & Simon (1973) on how chess experts process information, has suggested that cognition in music, mathematics and complex games are activities driven by pattern recognition and manipulation, and as such are affected by spatial-temporal reasoning ability. Of particular interest is their study (mentioned above) which focuses on the effect of keyboard training on the spatial-temporal reasoning of young children as measured by a series of object assembly tasks. These assembly tasks require matching, classifying, and recognizing similarities and relationships among

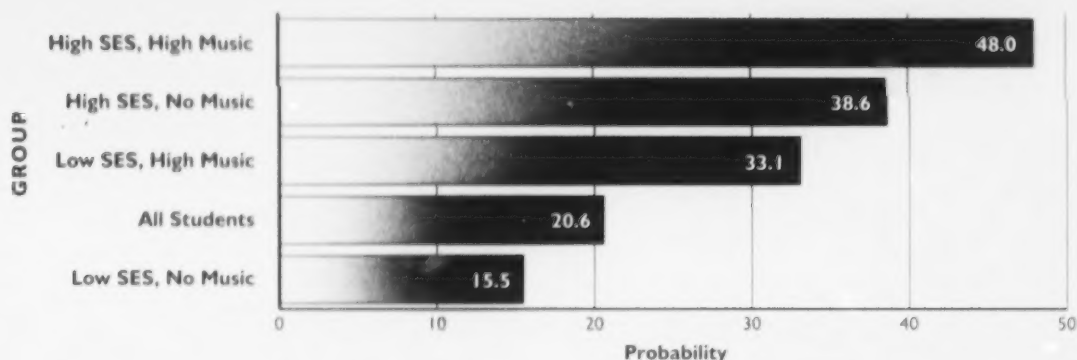
displayed objects. Keyboard training alone (rather than training in singing or simple arithmetic through the use of computer games) had a significant effect on children's ability to classify and recognize similarities and relationships between objects; this provides further evidence for the contention that at the most abstract level, music, like mathematics, requires the ability to recognize patterns and relations.

Intensive Music Involvement in NELS:88. We here report our explorations of differences shown by students who were heavily involved in instrumental music throughout the first three panels of the NELS:88 survey—8th, 10th and 12th grades. We add a word of caution at this point. Some of the studies discussed above were studies of music experiences in their natural state and their associations with spatial-temporal reasoning or mathematics-related learning. These were generally situations where there was no intention in the curriculum to bolster math-related skills; the researchers simply wondered if increased skills related to mathematics were a serendipitous byproduct of the music experience. Other studies were launched with the expressed intention of producing and tracking connections between learning in both the musical and mathematical domains. Both types of studies have found connections between music and mathematics cognition. Our work focuses on apparently serendipitous associations between reported involvement in instrumental music and reports of growth in mathematics proficiency for students.

The following chart shows one early result of our work. We examined the probability that students in different groups—differing mainly by involvement in instrumental music—would attain the highest levels of mathematics proficiency on the 12th grade tests used in the NELS:88 study. We also differentiated our analyses by family income and education levels, or SES.

In Figure 8 below, it can be seen that the overall probability of scoring high in mathematics (that is, the probability of such performance among all 12th grade students) is about 21 percent. These students score at Levels 4 and 5 on the NELS:88 mathematics test, performance levels indicative of strong success through

Figure 8. Probability of Highest Math Proficiency (Levels 4 or 5), Grade 12, By Group—SES and Consistent High vs. No Involvement in Band/Orchestra



at least three years of high school mathematics. From this baseline, the comparisons become quite interesting. First, all high SES students in our "high" and "no music" groups do better in mathematics than the average student. Second, within groups, students concentrating in instrumental music do substantially better in mathematics than those with no involvement in music. And third, low SES students with high involvement in music do better than the average student at attaining high levels of mathematics proficiency. The performance distribution for extremely low levels of mathematics proficiency, Level 1 and below, is a mirror opposite to the one shown in Figure 8.

Do math skills grow over time with involvement in instrumental music?

The NELS:88 data base allows for comparisons over time, an important feature in the creation of

arguments addressing the causes of observed differences between or among groups of interest. Here we observe how music-involved students compared with their non-music peers as of 8th grade and revisit the exact same students again in grade 12. Figure 9 shows performance level distributions for grade 8 groups of interest, including overall average scores, averages for all low SES students, averages of all low SES students with no music involvement, and low SES students with high involvement in orchestra and/or band. The levels shown refer to successively higher levels of proficiency, and they are scaled by specific skills and knowledge of test takers. (The NELS:88 test used here are criterion-referenced exams, like the tests used for the National Assessment of Educational Progress.) Their purpose is to gauge skill development against standards of performance and not to place students on some national norm scale. Level 3 would be

Figure 9: Math Proficiency Scores at Grade 8, Percentages Scoring at Each Level

Math Proficiency Scores	Average N=14,915	Average-Low SES N=7,052	No Music-Low SES N=1,216	Orch/Band-Low SES N=260
Below 1	15.3	20.8	16.4	10.8
Level 1	34.7	41.1	42.1	36.9
Level 2	20.3	17.8	19.7	20.4
Level 3	19.0	8.6	10.7	21.2

Figure 10. Math Proficiency Scores at Grade 12, Percentages Scoring at Each Level

Math Proficiency Scores v	Average N = 14,915	Average-Low SES N = 7,052	No Music-Low SES N = 1,216	Orch/Band-Low SES N = 260
Below 1	4.7	6.4	5.3	1.9
Level 1	14.8	20.9	22.8	12.7
Level 2	8.9	10.5	13.1	13.5
Level 3	15.6	14.6	21.1	20.8
Level 4	18.3	10.9	14.5	30.4
Level 5	3.0	.9	1.0	2.7

considered high-performing at grade 8; Levels 4 and 5 would be considered high-performing at grade 12.)

In Figure 9, it can be seen that twice as many low SES 8th graders in Band and/or Orchestra score at high levels in mathematics as did low SES 8th graders with no reported involvement in instrumental music—21.2 percent versus only 10.7 percent. For grade 8, the percentages of low SES students who would eventually show consistently high involvement in orchestra/band show math scores lower the average student, with about 10.8 percent of music-involved students scoring very low (below Level 1) and 15.3 percent of all students scoring as poorly. By grade 12, the differentials increasingly favor students heavily involved in instrumental music, especially the percentages of students performing at the highest levels (levels 4 and 5).

Through summing percentages shown in Figure 10 for students performing at levels 4 and 5, we see that thirty three percent of high-music/low SES students test at high levels of mathematics proficiency. This 33.1 percent should be compared to only 21.3 percent for "all" students, and only 15.5 percent of no-music, low SES students who score at high levels in mathematics by grade 12.

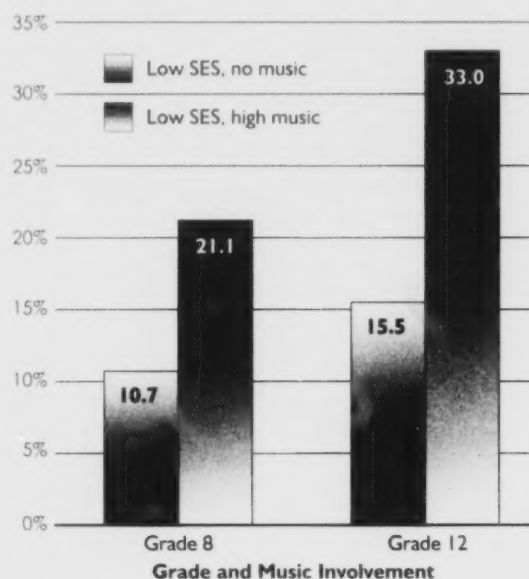
A most significant dynamic underlies the data in Figure 10. As of 8th grade, low SES, high-music youngsters perform on a par with the average student—about 21 percent at high math proficiency versus 19 percent for the average student. By 12th grade, the high performing gap between low SES, high-music

students and the average student has grown to about 33 percent versus 21 percent.

Figure 11 shows how the absolute performance gaps between the low SES students involved in music versus low SES non-music youth have grown considerably between grades 8 and 12.

Figure 11 shows math proficiency developments for low SES youngsters in perspective. In the NELS sample, there were 260 low SES students who qualified

Figure 11. Percentages of Students Scoring High Math Proficiency, by involvement level in instrumental music, Low SES



as intensively involved in instrumental music over the span of grades 8 through 12. As of the 8th grade, these 260 students were outperforming the 1,216 low SES students with no music involvement in mathematics; about 20 versus 10 percent scored at the highest levels of the mathematics proficiency scale. By grade 12, these same 260 students were outperforming all low SES no-music students by a considerably larger margin—about 33 percent were at the highest levels of mathematics performance versus only 15 percent for their non-music peers.

Involvement in Theater

We turn here to another exploration of intensive involvement in a single artistic discipline, in this case the theater arts.

Our interest in the theater arts grows from a history of scholarship exploring the meaning and importance of theater and drama in education over the past three decades. The central figures are number of prominent university faculty in Great Britain. The United Kingdom has been the setting for a substantial Theater in Education (or TIE) movement during this time.⁹ TIE refers to theatrical companies taking up residencies of varying duration at schools, usually bringing productions designed to provoke thought and discussion of important themes, as well as to entertain. There are also numerous devotees of "drama in education" in England, including many of the nation's elementary school teachers. This term refers to the use of drama in the classroom for various purposes—learning about history, conflict resolution, learning about oneself, learning stagecraft, learning acting, and so on.¹⁰ Drama in education is formally recognized as a curricular tool in the current National Curriculum in Britain, although neither drama nor theater are required subjects. University teacher education faculties maintain lecture-ships and even a professorship or two in drama in

education, so that teachers in training can learn to use dramatic forms in their future classrooms. Britain also boasts a remarkable individual, Dorothy Heathcote, who has become a legendary teacher trainer through a non-stop series of teacher workshops and residencies that have not slowed for 40 years, even as she enters her mid-70s. Ms. Heathcote advocates that teachers get into roles, along with their students, as they teach. She usually presents her workshops in role to make her points.

In surveying what is known about the impact of theater and drama on children, Tony Jackson from the University of Manchester identifies "change of understanding" as the general purpose. He goes on to emphasize that the changes of understanding can be about both form and content in theater. Children learn about the art form as well as about other ends related to personal or social development. Among the latter, Jackson enumerates learning about, "...group interaction, discipline, language usage, self esteem, and movement skills."¹¹ Heathcote reminds us also that drama provides situations where we can or must put ourselves into the place of another; thus empathy for others is a possible or even likely outcome of the dramatic experience.¹²

The strength of evidence for specific impacts of theater and drama claimed by these and other scholars tends to be weak. Drama and theater are complex events with many possible effects. Even if it were feasible to design studies looking for the impact of theater experience on such things as actor self esteem or language facility, objections by artists about taking so narrow a view of the experience would likely interfere. In any event, what we tend most to benefit from is the accumulation of case studies¹³, and the informed observations of senior scholars who have been attached to TIE or drama in education and who have come to

⁹ See Jackson, Tony, *Learning Through Theater: new perspectives on theater in education*. Second edition. London: Routledge, 1993.

¹⁰ See Bolton, Gavin, *Drama as Education: an argument for placing drama at the center of the curriculum*. Longman, 1984.

¹¹ Jackson, op. cit. p. 44.

¹² O'Neill and Johnson, op.cit. p. 129.

¹³ Tony Jackson, *Learning Through Theater: Essays and Casebooks on Theater in Education*. Manchester: Manchester University, 1980. Also Dorothy Heathcote, *Drama and Learning*, Chapter in O'Neill and Johnson, op.cit. pp. 90-102.

their own understanding through the gradual acquisition of research and professional knowledge.

We turn in a moment to our exploration of developments for middle and high-schoolers intensively involved in theater and drama. But we should begin by noting that the theater in education experiences on which we focus are not strictly those of central interest to scholars of drama and theater in education in the UK. The students in our study identified through NELS:88 data as intensively involved in theater are those who have attended a drama class once per week or more as of 8th grade, participated in a drama club as of 8th grade, taken drama coursework in grade 10, and participated in a school play or musical in grades 10 and 12,—or at least most of the above. Officers of these organizations were assigned extra "credit" toward intense involvement.

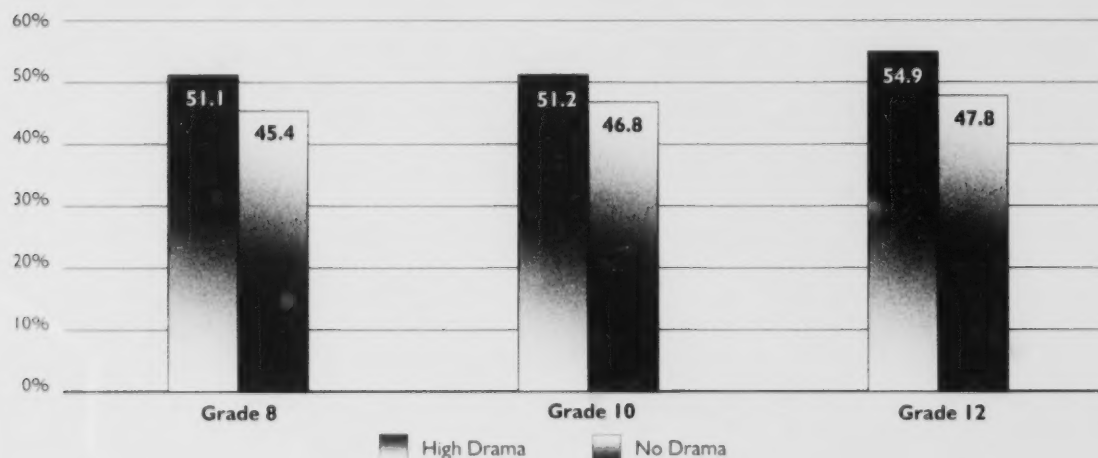
As such, our drama and theater students were not necessarily associated with TIE (formal theater groups in residence on campus) or with drama in education (the use of dramatic forms in the individual classroom for various curricular purposes). These are the kingpins of drama and theater in education in Britain and the experiences generating our hypotheses for

this exploration. Our interest centered on whether or not some of the claimed benefits of drama and theater from across the Atlantic show up in the NELS:88 data.

Theater and Language Skills. NELS:88 does not contain a measure of spoken language skills, but the data do track the development of reading proficiency over each survey year. We examined the progression of reading skills for two groups of low SES students beginning in grade 8. One group had no involvement in theater, and the other group was highly involved in theater. (This group consisted of the 285 highest theater-involved, low SES students in the entire NELS:88 sample.)

The pattern in the reading proficiency data is fairly clear. The involved students outscored the non-involved students as of 8th grade; both groups gain skill as they proceed through high school; and the difference favoring students involved in theater grows steadily to where nearly 20 percent more are reading at high proficiency by grade 12. (The advantage was only 9 percent back in grade 8.) This seems reasonable in that students involved in drama and theater, according to our definition of intensive involvement,

Figure 12. Percentages of Students above median academic self concept by grade, Hi Dramatic Arts Involvement vs. no involvement; all low SES



probably spend time reading and learning lines as actors, and possibly reading to carry out research on characters and their settings. In any case, theater is a language-rich environment and actively engages students with issues of language.

Theater and Self Concept. Because the English researchers list self esteem as a corollary of engagement with drama and theater, we examined the progression of a general self-concept measure in NELS:88 over grades 8 through 12 and compared our theater-involved to non-involved low SES students. Figure 12 shows that the "high drama" group maintained a small edge in self concept throughout the longitudinal study. Both groups gain over the four years involved, and a slightly bigger gap favoring those intensively involved in theater opened up by grade 12. (By grade 12, the difference shown in Figure 12 became significant ($p < .058$)).

Involvement in theater and empathy and tolerance. Dorothy Heathcote reminded us that a dramatic experience is an opportunity to put oneself into another's shoes. This is true when taking on a role; it is also true when, as a character in role, one labors to understand how another character encountered on stage has conceptualized and enacted his or her role, or to comprehend how his or her character is understood by others. Theater is loaded with potential opportunities to interact with students to whom one might not gravitate in the ordinary course of school life, including students from other economic strata and other racial groups. This holds both for interactions in role and for interactions with other members of the cast as a play or scene or improvisation is developed.

We found two indicators related to "tolerance" and "empathy" in NELS:88 and show the results on the following pages. Once again, we are comparing low SES students, one group with no involvement in theater and the other with high involvement over all of the high school years.

Race relations. The first indicator is shown in Figure 13. This reflects student responses to the

question, "Are students friendly with other racial groups?" Students involved in theater are more likely than all 12th graders to say yes to this question, by 27 percent to 20 percent. This difference may be an effect of involvement in theater. It also may be an artifact of unknown differences in schools attended by students where theater programs are offered. For other unknown reasons, relations among racial groups may be more positive at the schools of our high-theater involvement students. This difference is not statistically significant, in part an artifact of the small low-SES, high-theater sample.

A similar perspective is shown in Figure 14 on the following page. Here students at grade 10 were asked if it was OK to make a racist remark. About 40 percent more "no-drama" students felt that making such a remark would be OK, where only about 12 percent of high theater students thought the same, and about 17 percent of no theater students agreed. In this case, the advantage favoring high-theater students is statistically significant ($p < .05$).

Figure 13: Are students friendly with other racial groups? Students in lowest 2 SES quartiles.

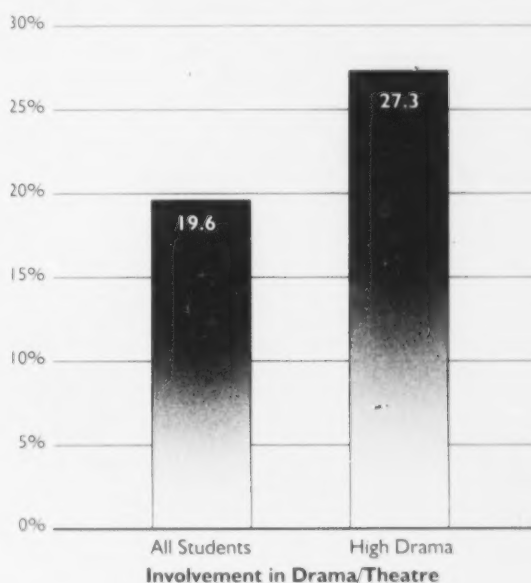
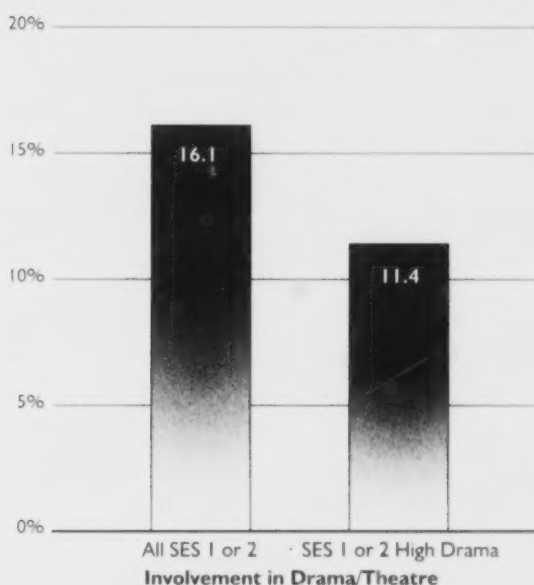


Figure 14. Percentage of 10th Graders feel it's OK to make Racist Remark



As with the data bearing on students "getting along" with others of different races (Figure 13), what is shown in Figure 14 may indicate an effect of involvement in theater and it may also be influenced by unknown school differences.

Discussion

The kinds of comparisons and analyses shown above are sure to provoke several kinds of questions surrounding the meaning of the data and the approach we took to examining and displaying the figures. In this concluding section, we attempt to anticipate some of these questions and also to suggest the implications of what we report.

Are our conceptions of the arts too concerned with non-arts outcomes? The purpose of this research was to examine some of the non-arts outcomes of engagement in the arts. Because we chose this purpose does not mean that we do not recognize or value the myriad goals that education in and involvement in the arts serve. Certainly involvement in the broad spec-

trum of arts captured in our more general assessment will mean many things to students that we did not set out to capture. Not the least of these are skills in the various arts themselves, competencies as critics of art forms, aesthetic awarenesses, cultural understandings, appreciations valuable in their own right, and new-found powers and joys to see and express.

Our analysis of involvement in instrumental music captured a sense of this activity that is clearly not an intentional part of music instruction or participation for many. It just happens that research is suggesting links between music and mathematics reasoning that we took the opportunity to explore. A larger case for instrumentality connected to theater and drama has been articulated in the writings and research of English scholars, and we explored a handful of such possibilities through NELS:88 data.

So yes, this analysis is concerned with non-arts outcomes of the arts in education. For now, we save research on the arts-related goals of arts education and participation in the arts for other scholars and to us, for a future date.

What can be said about causation in this analysis?

Establishing causation in education and social science research is difficult. The essential question that should be aimed at this type of work is what evidence supports contentions that involvement in the arts, or music, or theater "caused" the differences in groups reported above.

Any convictions that causation is involved depend mainly on three elements of the research—sound theory, supportive evidence, and ruling out rival explanations. First is the presence of a sound theory consistent with explanations that the arts should matter. In the case of all three of our analyses, we built our instincts around previous research suggestive of causal propositions. The strength of the case is perhaps most developed in the instance of music and mathematics-related cognitive development. Incidental benefits of theater have been argued and studied in the UK for decades. The general effects of broad involvement in the arts are supported most by research that has shown that children are more

engaged and cognitively involved in school when the arts are part of, or integrated into, the curriculum.¹²

A second element is observational data supporting the causal theory. If one cannot find an empirical link between participation in the arts and specific outcomes, it is difficult to argue that the arts are causing anything. A version of this argument is that one cannot support causation without significant correlation. The tables above illustrate correlations between arts participation and various outcomes, some quite strong.

The third element is the elimination of rival hypotheses. This is first carried out by trying to make comparison groups as similar as possible, with the only remaining difference being, in our case, intensive arts participation or none. We pursued this by restricting our groups to low SES students, so that differences in family background would not be driving observed differences. We also tend to eliminate rival hypotheses by observing changes over time for the same students. In all three sections of the work, advantages favoring arts—involved students appear to grow over time, which strengthens the sense of causal ordering—first arts immersion, then developmental effects.

A rival hypothesis we have not ruled out is that, systematically, the more arts-involved students attended more effective schools over middle and high school. To be truly preemptive, a "better school" explanation would have to hold for all three of our main comparison frames (general arts involvement, music involvement, and theater involvement). These comparisons were constructed differently, showed arts advantages on many different outcomes, and involved different students and different schools. An overriding better school explanation is not likely.

What are the implications of this research? This paper presents observations from a large-scale data base of U.S. secondary school students suggesting positive associations between involvement in various

arts and academic and social outcomes. The work supports strong suggestions, but is not definitive. No one study ever decides issues in this sort of research. Our knowledge base grows incrementally with the accumulation of consistent studies, and with the accumulation of professional knowledge by educators, school leaders, parents, students, and in this case artists involved in the schools.

The main implication of this work is that the arts appear to matter when it comes to a variety of non-arts outcomes, some of them intended and some not. The advantages accruing to arts involvement show up as both a general relationship, as well as in relations between specific art forms such as instrumental music and theater and specific developments for youngsters.

In addition, although not the main theme of this paper, our data support long-held concerns that access to the arts is inequitably distributed in our society. Students from poor and less educated families are much more likely to record low levels of participation in the arts during the middle and high school years; affluent youngsters are much more likely to show high, rather than low engagement the arts. If our analysis is reasonable, the arts do matter—not only as worthwhile experiences in their own right for reasons not addressed here, but also as instruments of cognitive growth and development and as agents of motivation for school success. In this light, unfair access to the arts for our children brings consequences of major importance to our society.

Finally, this work also suggests the value of future research. One important stream would be to follow the NELS:88 sample into young adulthood to explore sustaining effects. Another is the promise of more up close and controlled research that could further test our findings. Traditionally, the strongest research approach is the use of randomized studies. But random assignment to involvement in the arts is problematic when the issue is long term, natural engagement with the arts—the topic our research is concerned with. Also, long term deprivation in the arts, implied when enlisting purposeful control groups

¹² See chapter in this volume on the evaluation of the Chicago Arts Partnerships in Education for discussions and evidence concerning integration of the arts into the academic curriculum.

to study the importance of the arts, is probably unethical and could be considered potentially harmful to children.

Productive approaches to additional research may include phenomenological studies that probe the meanings of art experiences to individual children or educators. Studies may include up-close longitudinal studies of students heavily involved in music or theater (or other art disciplines) at the single or multiple-school level to explore changes over time. Studies should include school-level or larger scale studies of initiatives attempting to bring arts integration to the curriculum.¹⁵ Knowledge will grow at the intersection of multiple and diverse studies of what the arts mean for human development.

REFERENCES

- Bahna-James, T. (1991). The relationship between mathematics and music: secondary school student perspectives. *Journal of Negro Education*, 60, 477-485.
- Boettcher, W., Hahn, S., & Shaw, G. (1994). Mathematics and music: A search for insight into higher brain function. *Leonardo Music Journal*, 4, 53-58.
- Bolton, G. (1984) *Drama as Education: an argument for placing drama at the center of the curriculum*. Longman.
- Chase, W.G. & Simon, H.A. (1973). Perception in Chess. *Cognitive Psychology*, 4, 55-81.
- Darby, I. T. & Catterall, I.S. (1994). The fourth R: The arts and learning. *Teachers College Record*, 96/2.
- Grandin, T., Peterson, M., & Shaw, G. (1998). Spatial-temporal versus language analytic reasoning: the role of music training. *Arts Education Policy Review*, 99, 11-14.
- Graziano, A., Shaw, G., & Wright, E. (1997). Music training enhance spatial-temporal reasoning in young children. *Early Childhood Connections*, Summer, 31-37.
- Heathcote, D. (1984) *Drama and Learning*. Chapter in O'Neill and Johnson, op.cit. pp. 90-102.
- Jackson, T. (1980) *Learning Through Theatre: Essays and Casebooks on Theatre in Education*. Manchester: Manchester University.
- Jackson, T. (1993) *Learning Through Theatre: new perspectives on theatre in education*. Second edition. London: Routledge.
- Klinedinst, R. (1991). Predicting performance achievement and retention of fifth-grade instrumental students. *Journal of Research in Music Education*, 39, 225-238.
- O'Neill, C. and Johnson, L. (1984) *Dorothy Heathcote: Collected Writings on Education and Drama*. Cheltenham, UK: Stanley Thornes (Publishers) Ltd.
- Rauscher, F., Shaw, G., & Ky, K. (1995). Listening to Mozart enhances spatial-temporal reasoning: towards a neurophysiological basis. *Neuroscience letters*, 185, 44-47.
- Rauscher, F., Shaw, G., Levine, L., Wright, E., Dennis W., & Newcomb, R. (1997). Music training causes long-term enhancement of preschool children's spatial-temporal reasoning. *Neurological Research*, 19, 2-8.
- Rauscher, F., & Shaw, G. (1998). Key components of the Mozart effect. *Perceptual and Motor Skills*, 86, 835-841.

¹⁵ The Imagination Project is currently conducting such an investigation—the 6th and 7th year evaluations of the Chicago Arts Partnerships in Education. See summary report in this volume.

Imaginative Actuality
Learning in the Arts
during the Nonschool Hours

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It is easy to think that imagination begins where fact ends, yet we often find greatest evidence of the creative in objective reality. This is a report of empirical data on imagination at work in places and by people invisible to most of us and little evidenced in current discussions of education. It explores how young people and professional artists in economically disadvantaged communities make learning work in community-based organizations devoted to production and performance in the arts. First we review the general parameters of the broad research study from which learning in the arts emerged as of special interest. Next we consider findings related to all effective youth organizations, regardless of focus of activity.

Before we jump into just how the arts work in these environments, we need to learn something of the larger study which gave rise to the findings on art reported here.¹ This study was designed to allow anthropologists and policy analysts to understand effective learning sites that young people choose for themselves in their nonschool hours. By questioning local policymakers and collecting public documents, policy analysts learned much about the broad context of youth organizations and their support. Anthropologists spent time immersed, often over several years, in each site, following talk, work patterns, and interactions of youth members.

¹ Awarded to Shirley Brice Heath and Milbrey W. McLaughlin as co-principal investigators, funding for the major portion of this research was provided by The Spencer Foundation. Additional support came from the General Electric Fund and the Carnegie Foundation for the Advancement of Teaching. Members of the key research team included nineteen young ethnographers. Key researchers on arts organizations were Heath, Roach and Elisabeth Soep. This paper is a substantially revised version of two briefing papers. The first was prepared by Heath and Soep and presented as "Briefing Materials: Champions of Change Conference, Wang Center, Boston, MA, November 1, 1996." These materials accompanied a conference presentation by Heath. The second briefing paper is by Heath and Roach: "The Arts in the Nonschool Hours: Strategic opportunities for meeting the education, civic learning, and job-training goals of America's youth," March 2, 1998. This paper was distributed in conjunction with a report to the President's Committee on the Arts and the Humanities, Washington, D. C. by Heath and Roach.

Arts organizations turned out to offer funders and policymakers unique challenges and to provide fertile contexts for cognitive and linguistic development not available elsewhere for most adolescents. These findings came as a surprise seven years into a decade of this research on community organizations engaging young people in activities ranging from urban planning to poetry. The scholars carrying out this study were not arts educators or advocates, but social scientists working to understand learning and language development and organizational environments that enhance these for young people likely to be labeled "at-risk" in their schools.

"IT'S ALL IN WHAT THE PLACE IS LIKE"

This comment comes from an adult leader of one of these environments. This simple idea contains the essence of what we learned: contexts of learning matter greatly. But what goes into creating and sustaining these?

When institutions of society become overburdened and unable to adapt to changes in patterns of human behavior, new institutions need to emerge. Today, the sweep of new advances in technology, communication, and enterprise has shifted radically the rhythms and structure of daily American life. While frequently overlooked, young people often are the ones who feel these changes most significantly. Traditional institutions of school, family, and church, assumed to take responsibility for the positive development of young people, can no longer meet the full needs of today's children and youth between the ages of 8 and 18. An "institutional gap" exists, and it affects our youth.

Highlighting this gap, the Carnegie Corporation's 1992 report, *A Matter of Time*, shows that young people spend only about 26% of their time in school, and of their nonschool hours, they have discretion over

² All language data reported here in quotation marks was recorded by a member of the research team by audiorecording equipment, transcribed, and, in many cases, entered into a data base for analysis by a concordance program.

about 40-50% of that time. When parents and teachers cannot be with youngsters throughout the day to ensure their positive socialization, youth have to look to other places for their learning. And it's the nature of the places to which they go on their own time and of their own volition that shapes their growth in skills, ideas, and confidence.

Creative youth-based nonschool organizations and enterprises that have sprung up in response to this "institutional gap" engage young people in productive activities during nonschool hours. Those fortunate enough to have such places in their neighborhood and choose to spend time there carry with them a sense of need, an awareness of pending danger for themselves and their friends, and often some inner sense that they have a knack for doing "something more." Such places vary in structure and mission and range from well-established national affiliations such as Boys and Girls Clubs, parks and recreation programs, to an array of youth-initiated and grass-roots endeavors. Such organizations find homes in renovated warehouses, performing arts centers, railway yard buildings, and abandoned stores on dying main streets.

Regardless of the buildings that house them or the particular focus they espouse, all of these organizations share a central guiding principle: they recognize young people as resources, not as problems. This means they value the talent and interests of young people as key players in the development of individuals and the group, as well as their larger communities. Rather than focus on prevention and detention for "at-risk" youth, these organizations urge creativity and invention with young people as competent risk-takers across a range of media and situations.

Making Learning Visible

But what actually takes place in these learning environments outside of schools to attract young people to sustained participation, performance and productions of high quality? It was this question that drew Shirley Brice Heath, linguistic anthropologist, and Milbrey

McLaughlin, public policy analyst, of Stanford University to begin in 1987 a decade-long study that would bring answers, surprises, and hosts of new questions. Exemplary sampling across the nation located 124 youth-based organizations that young people of economically disadvantaged communities saw as places where they wanted to spend time and found learning a challenging risk they enjoyed. In other words, these were places young people judged as effective, from their point of view. From Massachusetts to Hawaii, in urban and rural sites, as well as mid-sized cities (25,000-100,000), these young people frequently attended organizations whose activities centered in either athletic-academic groups, community service initiatives, or arts participation.

Figure 1. Three Types of Youth-Based Organizations

- **Athletic- Academic Focused**—Youth participate on sports teams that heavily integrate academic involvement on topics related to the sport being played.
- **Community- Service Centered**—Youth orient their activities toward specific ways of serving their communities—ecological, religious, economic.
- **Arts- Based**—Activities in the arts engage young people in a variety of media—visual, technical, musical, dramatic. All arts programs carry a strong component of community service, and many have since 1994 moved increasingly toward micro-enterprise in local neighborhoods.

Young scholars trained as anthropologists fanned out to record the everyday life of these organizations, collecting data through observing and noting events from the beginning of planning for a season through its final cycle of evaluations. In addition, these researchers made audiorecordings of adults and young members as they went about practice, critique sessions, and celebrations. In 1994, a sample of youth organization members responded to the National Education Longitudinal Survey [hereafter NELS], so that those in nonschool

activities could be compared on a host of features with a national sample of high school students. In addition, to further complement the research, the young anthropologists trained small teams of local young people to work as junior ethnographers. They audio-recorded everyday language both within and outside the organizations, interviewed local residents and youth not linked to youth-based organizations, and supervised other young people in their keeping of daily logs and journals.¹

As the evidence accumulated, it became clear that the ethos of these organizations and their easy inclusion of young people in responsible roles make rich environments of challenge, practice, trial and error, and extraordinary expectations and achievements. An ethos that sees young people as resources cascades through organizational structure as well as moments of hilarious play and concentrated work. These groups, like many organizations in the adult world today, are less defined by their material surroundings than by their communications, linkages, and dynamism. Like start-up companies of the business world, their assets rest primarily in their people and not in buildings, grounds, and equipment.

While numerous notions circulating today wrongly assume that young people only want to hang out and to have fun, youth in the organizations of this study emphasize the importance of "having something to do." They crave experience and productivity. Essential to successful organizations—and in line with youth interests—is the offer by these organizations of more than just a safe place to go after school. Young people expect to play many different roles, help make rules, and to be able to take risks by trying something new, taking inspiration from unexpected sources, and creating new combinations of materials, ideas, and people.

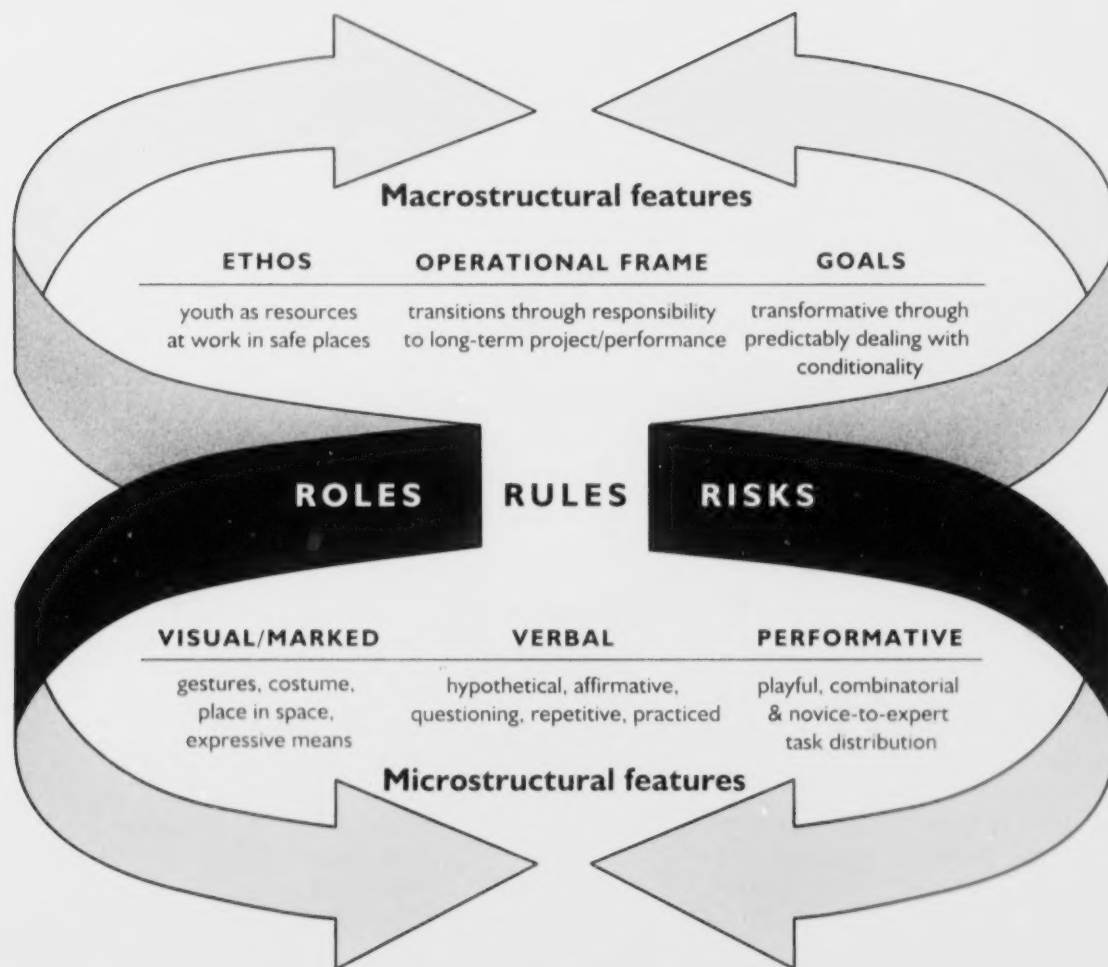
Roles, rules, and risks—a rewrite of the 3 R's of the early twentieth-century ditty about schools—characterize the places where young people want to be. As shown in Figure #2, the macrostructure or overarching

organizational frame of these learning environments derives from the ethos that the diverse talents and energies young people bring to the organization to make it what it is and can be. Adult leaders freely admit that "if kids walk away from this place and stop wanting to come here and work, nothing we adults can do by ourselves will keep these doors open." The operational frame distributes functions and roles throughout, and yet marked transitions link to growing responsibilities and commitment by each young person to long-term projects or performances of the group. Young people take part as board members, receptionists, junior coaches, clean-up crew, and celebration planners. The longer they stay in the organization, the more they get to do—the wider the arc of their responsibilities and roles. Group goals make clear the transformative effects of hard work, creative collaborative work and critique, and achievement in the face of skepticism about the abilities of young people from communities lacking in economic viability and professional role models.

Almost without exception, all these organizations have fragile grips on their future existence. Until the early 1990s, survival depended exclusively on grants, individual and corporate donors, and the rare endowment. But by 1994, young people in more and more organizations began to put their talents and energies to work to enlist civic groups, appropriate business clients, and social service agencies as clients. Tumbling teams become half-time entertainment for professional basketball games and neighborhood block parties; conservation groups hire out to build park benches and design signs identifying and describing local flora and fauna; drama groups provide workshops for juvenile detention centers. Funding contingencies provide just one of the ways young people meet all the unpredictables of their group. The norm is "be ready for anything"—canceled contracts, van breakdowns on a critical day, break-ins and robberies at the site, and the inevitable emotional and social issues that arise. Older youth bear special responsibilities to young members at times like these, and since most of these groups include students who may range in age from eight to eighteen,

¹ For further explanation of the range of methods of data collection and analysis used in the study, see Heath & Langman, 1994; McLaughlin, Irby, & Langman, 1994.

Figure 2. Macrostructural vs Microstructural Features



long-term and older members have to be strong role models for one another and for younger members.

Adults in these organizations do not expect the young just to face and solve problems. They ensure that members get lots of practice in looking ahead and figuring out just where problems might arise down the road. "Let's think about what could happen" dominates considerations of these groups, especially as end of season, task completion, or openings of showings or performances draw near.

Microstructural, or daily interacted, features work through roles, rules, and risks, and show up in the behaviors of young members. These link in multiple ways to macro features, because all occur under a shared umbrella of understanding of "what this place (or group, or practice...) is about." At the microstructural level, visual or marked aspects of membership include special gestures (greetings, congratulatory signals), specific costumes (shirts, caps, and jackets with logos), particular places within the space of the

Figure 3. Expectations of Youth in Effective Organizations

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- Individuals bring diverse talents, skills, knowledge, and networks vital to the life of the group.
 - Everyone has to be ready to pick up the slack, to play different roles, and to be a responsible critic of the group's work or performance.
 - A season means from start to finish, from plans and preparation to practice, performance, and evaluation.
 - Practice, practice, practice goes along with the need to keep asking, first of the self and then of others, "how's it going? What do you think?"
 - No one learns or does anything for just the individual; expect to pass what you know and can do on to others through teaching, mentoring, modeling, encouraging.
 - Adults and youth alike have to be prepared to suspend disbelief, deal with intense emotions, and explore vulnerabilities.
 - Everyone expects the unrelenting accountability that comes from authentic audiences, outsiders to the organization.
-

organization, and high value on several means of expression (dance, visual arts, logos, etc.). Verbal interactions are marked by a heavy use of hypotheticals, affirmations, questions, specific names, playful routines, and wide range of both oral and written genres. Performative play and humor emphasize much of what goes on within the groups—special messages left on computers, unique drum roll for the perennially late young actor, and highly creative song lyrics.

These seemingly simple features of everyday life in these organizations translate into group expectations sitting within a climate of can-do, no matter what happens. While at first glance these features may make youth organizations sound harsh and full of stress-filled hours, they are instead high-quality and high-stakes learning environments that recognize the creative capacities of youth. Figure #3 provides a summary of the expectations that organizational leaders in these sites surround with a sense of safety and predictability for the young. Rules are not great in number, but they matter, and they sound like common sense; "pick up after yourself"; "nobody gets hurt here"; "remember this place works because we work."

The Surprise

As the research team worked in these organizations over the years and carried out more fine-grained

analysis—particularly of the language young people and their adult leaders used, environments of arts organizations emerged as somewhat different from those of groups engaged primarily in community service or sports. In addition, the young people who belonged to arts programs exhibited more of certain attitudes and behaviors than those attending organizations of other types.

Presented here are quotations from young people and adult leaders in these arts groups that capture the climate of expectation and work in these creative environments.

"It changes your perception of the world."

"You can say really important things in a piece of art."

"You center yourself and things pour out."

"When I'm actually doing my art, I feel like I'm in a different frame."

"We keep pushing the envelope of what we're doing."

Essential here is the combination of thinking, saying, and doing something important while being aware of the self and the group in these endeavors.⁴

⁴ For general discussion of contexts of arts organizations as rich linguistic and cognitive environments, see Heath, Soep, & Roach, 1998. For greater detail on how arts coaches (as well as sports coaches) in these effective youth organizations talked with young people, see Heath & Langman, 1994.

The language of youth arts organizations reveals that through planning and preparing the group projects to which individuals contribute, each member has available multiple opportunities to express ideas. Adult leaders start meetings early in the season with open challenges: "what kind of show do you want this year?" "we've got to figure out the program for this year—ideas, directions, special requests?" Adults remind youth members that there are some limits—budget, availability of performance or exhibition space, and the obligation to fill contracts already in place. Beyond these limits, imagination can take youth in the arts to almost any place or project they dream up. All that is needed—and adults are quick to remind young people of this—is young people's willingness to work to make their ideas happen. When an organization committed primarily to the visual arts decides to add a play to the opening night of their gallery exhibition, the only boundaries come from limited time. Any work on a play has to take time away from producing their individual pieces and fulfilling contracts for group projects. Some version of "We give them room to fail as well as to succeed" comes up often in adult leaders' talk about how they work with young people.

Questions and challenges fill not only initial group planning sessions, but follow-up in one-to-one and small-group interactions. The arts director of a theatre group asks performers to choose a leader and then to work in groups of three for half an hour to develop a scene from a piece of writing taken out of the journal of one member. The chosen leader of the three focuses the group on making a choice quickly and then guides talk toward scene development in the allotted time. A dance troupe struggles in the first week to decide on a theme, working in small groups to develop ideas and rationales to present to the other groups for selection. In all cases, young artists work against the immovable deadline of performance and product development, knowing that in the final analysis, their work will be judged by outside authentic audiences of friends and family, to be sure, but also clients, critics, and could-be fans and supporters convinced only by the merits of the work of art.

Plans in these organizations come from and with young people rather than for them. At the minute-to-minute level, this means that young people get lots of practice in developing future scenarios, explaining ideas, arguing for a particular tactic, and articulating strategies.⁵ They talk about "what if?" "what about...?" "could we try this?" "let's try...." They throw out imaginative situations for others in the group to consider: "in that part, if Maria moves to the side and the spot is on her, the drummers step back, then Antonio can come on from the dark side of the stage before lights go back up." They pepper their sentences with "could," "will," "can,"—asserting possibility. They preface suggestions with subject-verb phrases that attribute responsibility to their own mental work: "I wonder," "I came up with this crazy idea....," "I see this going some other way."

Such talk can slip past the casual listener as nothing special. However, in arts organizations, the frequency of "what if?" questions, modal verbs (such as could), and mental state verbs (such as believe, plan), as well as complexity of hypothetical proposals, amounts to lots of practice. Young members talk and talk in their planning, during practice, around critique. This abundance and intensity of practice for these types of language uses is rarely available to them in any other setting.

The institutional gap noted at the outset of this paper means that older children and adolescents have relatively few occasions to work in a sustained way to plan and carry out a project with an adult or guiding expert. Junior ethnographers working with the research team recorded patterns of ordinary language

⁵ The art of planning and the care that must go into different phases and types of plans receives almost no direct instruction in formal educational institutions. Yet since 1991 the world of business has given increased attention to "the art of the long view" (Schwartz, 1991). Notions such as "unintended consequences" and the "long shadow of small decisions" have become commonplace within frameworks for successful personal and organizational existence, as a result of the tightening of the webs of connection (Mulgan, 1997). The small but very real world of youth organizations offers a laboratory for using and exploring the kinds of language and thinking that make these concepts familiar to students.

interactions of young people in their nonschool hours outside youth-based organizations. The findings revealed that for students who did not attend organized nonschool activities and were not extensively involved in extracurricular activities at school, each week offered them at best only 15-20 minutes of interaction with adults in sustained conversation (defined here as at least 7 minutes in duration) on a single topic that included planning.⁶ The youth not involved in nonschool activities received almost no practice in talking through future plans, developing ideas for execution, or assessing next steps from a current situation.

Whereas family members and neighbors in earlier years worked shoulder to shoulder with the young, whether in the kitchen, garden, local boat harbor, or porch addition, current job demands—for adults and young people—make unlikely these extended periods of joint work at a relaxed pace. Leisure hours, when they occur, go to bodily exercise, spectator sports, travel, or chores piled up because of long working hours, illness, or crises. Young people across all socioeconomic classes have almost no time with adults to hear and use forms of language critical for academic performance and personal maturation. Decision-making, thinking ahead, and building strategies make up most of what adults have to do in their everyday lives. But facility in these does not come easily. Most certainly, the linguistic competence necessary to talk oneself through tough situations cannot develop without hearing such language modeled.

Young people in arts-based organizations gain practice in thinking and talking as adults. They play important roles in their organizations; they have control over centering themselves and working for group excellence in achievement. Their joint work

with adults and peers rides on conversations that test and develop ideas, explicate processes, and build scenarios of the future.

They get to play across a scale of adapted voices, strategic planning, and thoughtful listening.

"I find my inspiration from other performers."

"We give a lot of advice to each other."

"It comes down to taking the time to listen to the other person—just giving it a chance and trying it out."

These comments from youth members in arts-based community organizations refer to critique—a process that takes place primarily during the practice and evaluation phases of the cycle of each season of arts production or performance. Critique, the reciprocal give-and-take learning of assessing work to improve the outcome, occurs daily in youth-based organizations (Soep, 1996). Professional artists, as well as older youth members, give younger artists specific feedback about techniques to be practiced and developed, and they ask questions to help them focus the meaning of their work. The high risk embedded in the performances and exhibitions of these organizations creates an atmosphere in which students know how to solicit support, challenge themselves and others, and share work and resources whenever possible. Critique, as an improvisational and reciprocal process, amplifies practice gained during project planning in using hypothetical statements ("if you put this color on today, then can it dry enough by Friday to start the next color?").

In addition to the risk of sharing work with peers, the constant anticipation of a critical audience infuses life at these organizations with an orientation toward the uncertainty of public reaction. Young people have to face the possibility that something can "go wrong," or viewers will not "get the point." These fears motivate perpetual self-monitoring of process and refinement of product. Risk also operates at the level of the organization and its survival through the contingencies of an uneven climate of financial and popular support. Through their many roles at effective arts sites, youth participate actively in efforts to guarantee that the organization will continue

⁶ These findings echo those of Csikszentmihalyi & Larson, 1984 and numerous other scholars who have shown that as older children move into the teenage years, they spend less time with family and more with peers. Key, of course, to the time spent talking with family members is content of that talk; see Ochs, Taylor, Rudolph, & Smith, 1992.

not only for them, but for their younger counterparts as well. Far from a liability, this confluence of risk heightens learning at effective youth-based arts organization. While public rhetoric laments the fate of "at-risk youth," our research reveals how youth depend on certain kinds of risk for development. Rather than live at its mercy, youth in arts organizations use the predictability of risks in the arts to intensify the quality of their interactions, products, and performances.

As the group moves through its work toward meeting deadline, they give one another advice as well as work with the professional artists that instruct and guide in their organizations. They look, listen, take notes, compare pieces or scenes, and critique. They ask others to think about their work in specific ways: "does this work here?" "what's not right here—something's bothering me." The answers of others model good material for similar internal questions and answers of the self; the poet learns to ask herself, "What is it I really want to say?" She also frames answers to herself on the basis of those she has heard in critique sessions. Males and females alike report the critique sessions as highly important to enable them to know how to raise and address serious questions and how to reframe queries to help young artists see in their work something they cannot see on their own.

One young artist who moved on successfully to architecture school reflected on the youth-based arts organization that he had helped establish when he was in the eighth grade. "The place enabled me to put together a capable portfolio," he said, "to get accepted at a good institution, to make sure I had the tools to look at something and crit it by myself and say 'is that good enough? what's good and what's bad about it?'"

Learning to monitor internally as well as to give advice to others builds from the group planning that begins each season throughout the full run of the cycle of work from start to finish. Reflecting back on a gallery show, workshop, dance recital, or cut for a compact disc at the end of the season allows long-term assessment. Members ask not just how the event went, but how they worked together, where and how is it that a particular

"snag" happened, and whether better planning could have avoided the embarrassment it brought the group.

The influences of participation in the arts on language show up in the dramatic increase in syntactic complexity, hypothetical reasoning, and questioning approaches taken up by young people within four-to-six weeks of their entry into the arts organization. During this period of time, they will move from planning and preparation into intensive practice and pending deadline. Initial data analysis from the approximately 750,000 words transcribed from arts-based youth organizations (from the full corpus of one million and a half words for all youth-based organizations in the study) shows the following generalized patterns for arts groups:

- a five-fold increase in use of if-then statements, scenario building following by what if questions, and how about prompts
- more than a two-fold increase in use of mental state verbs (consider, understand, etc.)
- a doubling in the number of modal verbs (could, might, etc.)

These linguistic skills enable planning, demonstrate young people's ability to show they are thinking, and also help them have the language to work together with firm resolution and a respectful manner. Perhaps most important, these uses of particular structures get internalized, as hundreds of pages of journals devoted to ways their work as artists come up for them during the day when they are in other parts of their lives attest. Young artists report hearing a melody on the radio, seeing a billboard design, or witnessing a fight on the subway; all the while, they report that they can be thinking about transforming these moments into their own art.

Strategy-building is the best way of capturing the sum total of all the talk about planning, preparing, and "using your head." Figure #4 summarizes some of these through examples of how language works in the arts. This figure shows how young people develop the

Figure 4. Strategies for Learners

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- **theory-building and predicting**—"what do you think will happen if...?" "we could think of this in three dimensional terms, couldn't we?"
 - **translating and transforming**—"think about your favorite rap group—how do they use metaphors?"
 - **creating analogies**—"okay, so what's this? I mean can you tell me how what I'm doing is getting at something else" (demonstrating a short sequence of movements that suggests a furtive stranger)
 - **reflecting and projecting**—"write about how you think you did today and don't forget to put down your ideas for the dance program—we gotta get this thing settled."
 - **demonstrating, explaining, negotiating**—"hold it right there. Do that again, Tracy. Now what did you see, Rad?" [he explains] "Is that right, Tracy, is that how you did it? Tell him."
 - **displaying (trial and error) and assessing**—"don't forget this performance is only six weeks off and those kids in the Parks program (the audience for the program) can be plenty mean; they're squirmy."
-

language uses to move them beyond using simply their own experiences or opinions as basis of argumentative or declarative discourse. The highly frequent oral exchanges between youth and older peers and adults around problem posing and hypothetical reasons lead these youth in arts organizations to consider multiple ways of doing and being in their artistic work and beyond.

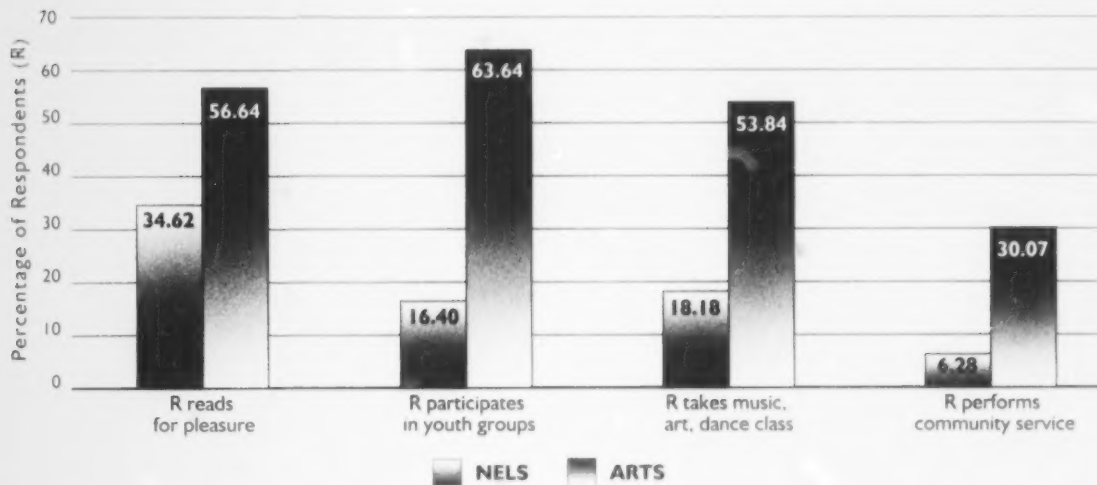
When we realize that students in theatre-based organizations of our research had in each practice session approximately six times as many opportunities to speak more than one sentence as they might have in their English and Social Studies classrooms, it is no surprise that certain linguistic uses appear to become habit.² Evidence suggests that they reinforced these habits elsewhere. Figure #5 compares young people in arts organization of our study with students surveyed in NELS. This figure shows that youth in the

arts-based organizations of our study use their discretionary time to build not only their language skills—through reading and interacting in groups with a focused activity, but also their specific talents in the arts through classes—either within school or outside.

This choice of opportunities for what may be called "extra practice" goes along with the intensive authentic language practice young people receive in their arts groups. These students had nine times as many opportunities to write original text materials (not dictated notes) as their classroom counterparts. Also of particular note is the fact that adult leaders in arts groups issue in the early weeks of a season twenty-six questions per hour to members of the group and precede these by the name of either the individual, a small group (e.g., "Tony's group"), or the full group. As noted above, these are not questions to which the adult already knows the answer, but queries that prompt ideas, plans, and reactions: "Okay, Ramona, you're too quiet; what are you thinking?" Early in the season, such questions go most frequently to oldtimers among the group, but within a few weeks, every member can expect to be pulled into the talk necessary for planning and preparing before the group enters the heavy-duty practice or production phase of the season.

² This analysis was done by pulling sections of 3000 running lines from the language corpus of theatre groups of approximately 15 young members and comparing these with reports on classroom language drawn from dissertation and published book appendices. It is important to note that most classrooms have more than 15 students, and since many reports of classroom language do not indicate the total number of students, this comparison is rough at best. English and Social Studies were chosen as subjects, since these are classes most often dedicated to discussion of texts and events, as is practice for drama. See, for example, Tannock, 1998.

Figure 5. Leisure Time Activities



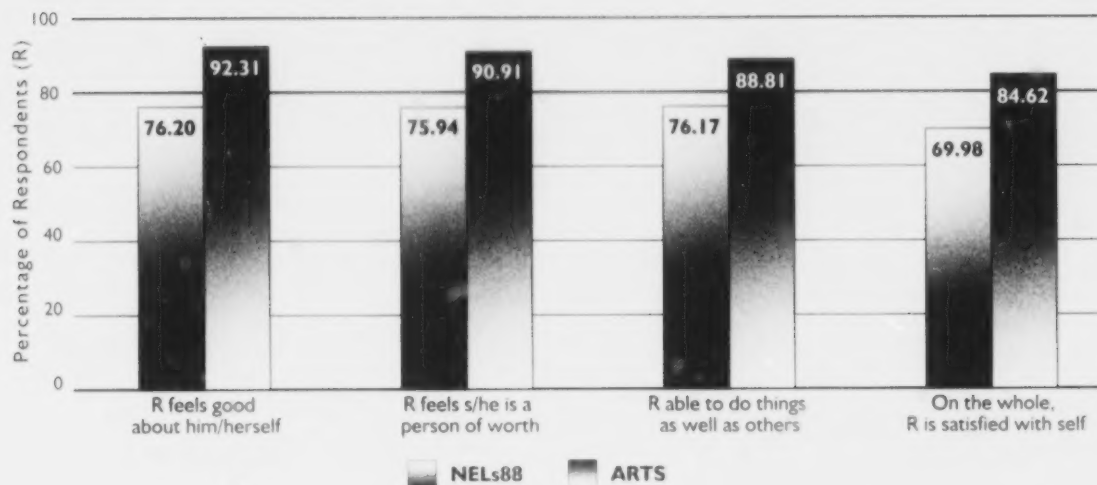
Effective arts-based youth organizations place strong emphasis on communication skills of many types and across an array of contexts and situations. Their adult leaders expect the youth to be able to engage in conversation in highly serious, reflective ways, and these leaders or drama or writing coaches make clear that young people should expect the same of all adults around the organization: "If she [a new professional artist] is not giving you the time you need, go talk to her, tell what you think's wrong with the piece, and ask her advice. She'll talk to you—you may not want to hear what she says, but then have a conversation. It's OK to disagree with her!" For groups involved in seeking clients, such skills that form the basis of confidence and ease in talking with adult professionals can make the difference between losing or landing a contract.

Involvement in the arts demands fluency and facility with varieties of oral performances, literacies, and media projections. Through the multiple roles suggested here, youth have to produce numerous types of writing as well as oral performances of organizational genres. These genres, ranging from invitations and schedules to satires, book jackets, and vignettes, reveal the daily activities at arts-based youth organiza-

tions as fundamentally intertextual. Young people can and do learn to talk through a set of plans and remain willing to go back to drafts to make their work better. But they also do much writing that is first-draft information-only: key terms, times of rehearsals, names of shows currently at local galleries, dates of future events, etc. Contrary to most situations they have faced as students, they also must write as a group: scripts for their own plays, press releases, program content, and thank-you letters to funders. They listen to adults' reports of events in civic affairs or at the state level that may affect them, and they often draft responses on public issues that may affect them, such as curfews that could eliminate late-night practices or rehearsals.

Through their involvement in effective youth-based arts organizations, young people cultivate talents and dispositions they bring into their voluntary association with such high-demand high-risk places. Once there, the intensity of these groups builds and sustains a host of skills and capacities rooted in their personal recognition of themselves as competent, creative, and productive individuals. Figure #6 indicates the extent of what may be called their "self-esteem" as compared with the students surveyed in NELS. This figure is especially

Figure 6. Perception of Self



significant when we compare the factors of home atmosphere for NELs students and those in arts organizations. The latter were about twice as likely as the NELs students to be undergoing situations that often contribute to feelings of uncertainty and insecurity, such as frequent moves, parent losing or starting a job, parental relationship change, or going on or off welfare. Arts organization students often talked and wrote in their journals about how their art enabled them to express pent-up feelings but also to get some distance by observing closely and taking the time to think and to listen.

The Generative Capacity of The Arts:

Group awareness of how their collective talents can add to the larger community comes along with individual confidence and building of expertise. As one adult leader put it, "It starts with kids and then the adults come in"; this claim refers to the various roles that youth groups play for community enhancement—educationally, aesthetically, and economically. Within their own groups, they play roles as mentors for younger members; but when these organizations mount exhibitions, produce plays or musical concerts, or

develop videos, their educational roles reach beyond their own organization. Within their own space or sometimes in rented gallery space, young visual artists mingle and talk with visitors. Most dramatic productions are followed by conversations between young actors and audience members; the same is true for showings of videos made by media arts groups. Adults from their communities come to see what they have done, sometimes out of initial curiosity, for such events may be culturally unfamiliar to them, but more often out of a sense that this young person is doing something they themselves cannot do. This sense of unfamiliarity can deepen pride in parents, who often report never having had such opportunities themselves or never knowing that their child had such talents.*

It is difficult to calculate just how much in the way of education, entertainment, counseling, and community

* Our research did not involve collection of data from parents. Young people, however, often talked in interviews and general conversation within the arts groups about who would attend special events and why. Adult leaders also reported to us the broad enthusiasm parents and community friends of the young people had for seeing just what the group was doing. Several types of data suggest that parents of young people in these arts organizations had high aspirations for their children and also attended their school events.

Figure 7. Youth Development With the Arts

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- **Marketing Model**—Youth reflect artistry through an array of products and services that they can sell in their neighborhoods. In so doing, they recognize local resources and possibilities for social entrepreneurship and community development.
 - **Tagging Model**—Young artists see themselves as responsible and in instructive positions that build upon their creative artistic and communicative skills to develop similar skills in their younger cohorts.
 - **Positioning Model**—Youth participate in apprentice and intern programs that give them time to shadow others holding positions in a range of types of creative and artistic enterprises.
 - **Line Up Model**—Youth advance into mainstream secondary and post-secondary institutions while also pursuing further enhancement of artistic talents for vocational or avocational development.
-

service young people in arts organizations contribute annually. However, across the arts groups of our study, we provide these rough averages, which have to be interpreted with an awareness that groups in rural areas and mid-sized towns could not provide as many occasions because of lack of transport. In addition, some of the groups we studied manage to book more than 300 performances during the school year in their state. The figures given here are averages of actual counts of types of activities each hour for one day a week and one weekend day from a sampling of young people in these organizations between 1994 and 1997.

- 800 hours, or 20 weeks, annually of teaching for younger peers
- 164 hours annually of positive public entertainment suitable for families and young children
- 296 hours annually of counseling and mentoring with their younger peers
- 380 hours annually of free public service in media production, performance, and community development

A key outcome for youth engaged with the arts is not just academic development, but also work opportunity—the chance for youth to apply skills, techniques, and habits of mind through employment in arts and/or community-related fields. Figure #7 summarizes the major ways in which youth arts

organizations enabled authentic work opportunities that extended learning for students.

In all these models, individuals had to put to work not only what are classically considered academic skills, but also interpersonal, judgmental, and communicational abilities. In addition, they had to have a level of technical competence that matched the task at hand. Especially high-stakes learning environments center for an increasing number of arts organizations around social entrepreneurship efforts placing the arts at the center of personal and neighborhood-based economic development. Producing graphics for local businesses, obtaining paid contracts for a performance series, opening a theater in an underserved area, setting up a micro-enterprise incubator for arts-related shops and projects—these exemplify how the arts at youth-based organizations draw on and strengthen local human capital and aesthetic resources.⁹ Hence, the positive learning environments of these groups hold significant value not only in developing youth (in terms of the cognitive, linguistic, and social capacities cultivated in young people involved in these organizations) but also in youth in

⁹ A documentary video and accompanying resource guide, *ArtShow*, [available late 1999] illustrate four youth-based organizations, two rural and two urban, devoted to the arts. The two urban sites include a strong focus on economic opportunities that build the local community socially and culturally and enable the arts organization to pay young artists for their work.

development (when the activities of these organizations serve as vehicle for young people to participate in social enterprise and community reshaping). Learning occurs in the arts first at the individual level and then at that of the larger community.

Artistic work often generates enterprise development and inspires entrepreneurial projects and planning. The process of re-creating old buildings, old ideas, forgotten traditions and connections becomes recreational, and leisure time and play then become the work of joy, dedication, commitment, and involvement. Further or advanced learning, these youth show us, need not be distant from one's community and local needs; its generative potential works most effectively as on-going habits of mind and connections between institutional resources and personal needs. Learning and working that enhance individual merits can generate community benefit and incentive; community initiatives, in turn, enable individuals to remain close to family and neighborhood as resourceful assets.

It is a given at the end of the 1990s that most 16-19 year-olds work during some part of the year, many at fast-food establishments or in low-skill, low-wage jobs with little in the way of cognitive and linguistic demands.¹⁰ Youth-based arts organizations often employ their young members, providing them not just with a job directed by adults, but with work that they have part in envisioning and initiating at the organization. The arts enable young people to develop independence—in thinking, creating, pursuing economic and social goals, and building their futures. Recent reports such as SCANS 2000 (see www.scans.jhu.edu/arts.html) link arts education directly with economic realities, asserting that young people who learn the rigors of planning and production in the arts will be valuable employees in the idea-

driven workplace of the future.¹¹ Furthermore, young people who have worked in the arts know how to strive for excellence and challenge themselves and their arts groups to improve, knowing that an audience or "customer" will be the ultimate judge of their work. Through an array of genres and communication skills (both verbal and non-verbal), young people who have worked in the arts know how to create and perform, perceive and analyze, and understand cultural and historical concepts through an approach that integrates individual parts to a larger whole.

Following young people over the course of our ten years of research reveals that most of the young who have left high school still remain linked to their former youth-based organization in one way or another, while they pursue multilinear paths of further learning. They have, for the most part, not chosen to exit from their communities, but to remain in some cases, to work with other young and to build resources in enterprise development. They tend to attend one or more local institutions of higher education and supplement this work with extra courses through their jobs, churches, neighborhood centers, or unions. Community colleges, technical arts schools, and private business colleges attract these young for specific purposes they develop and pursue. These varied trajectories reveal how working in and through aesthetic projects builds academic involvement which, in turn, connects to avenues of employment.

What does all of this cost?

To read these descriptions of life within highly effective arts organizations that are youth-based has to raise the issue of cost. Next steps with regard to young people come most frequently these days in terms of cost-benefit analyses directed toward solving the

¹⁰ For extensive documentation of such work for young people, see Newman, 1999 and other publications of the Russell Sage Foundation that illustrate the extent to which adolescents need to work to provide what they feel they themselves need and to contribute to their families.

¹¹ Numerous popular books on business-corporate and entrepreneurial make this point. What is striking are the parallels between the recommendations of these works and the everyday events of effective youth-based organizations. For further comparison on these issues, see Heath, forthcoming.

problems youth present; what will it take to deter criminal activity, stop teen pregnancy, reduce dropouts and truancy? Such analyses can come in multiple ways, and most sound sensationalist and exaggerated to the layperson.

If we attempt to offer a cost-benefit analysis of the arts programs we have studied, we can do so in ways similar to the process by which school districts calculate per-pupil costs. But the truth is that these figures from organization to organization make little sense, because some groups engage young people daily, while others can do so only a few days a week. Some serve a dozen young people, while others work with 60-100. However, that said, the rough figures across all the types of arts groups add up to about \$1000 per individual student per year, if the organization either owns the building or has a heavily subsidized rent and does not have to maintain the building from their budget. For those who pay either mortgages or market-value rent and must maintain the building, costs per student often run closer to \$2000 per individual student.¹²

CONCLUSIONS

A wise young student in an arts program recently observed: in prose you try to tell everything that happened; in poetry you leave out things on purpose so that you can tell the truth.¹³ It has not been possible here—even in prose—to portray all that goes on in the learning that happens through participation in the arts

within youth organizations; neither is it possible to render in poetry the truth of its fullness.

Community organizations that work effectively with youth successfully fill the "institutional gap" by providing young people with substantial learning and practice opportunities with adult professionals and older youth who serve as teachers and models. Such organizations create ample supplies, instruction, and structured exploration time for young people to know and to develop their talents as producers, spectators, and evaluators in one or more of the arts. This, in turn, enables young artists to develop the motivation, skills, and habits of mind necessary not only to contribute to solo and group projects while holding high standards of achievement for themselves and others, but also to sustain focus through sufficient practice to reach peak levels of proficiency and pride in being a member of a community-building organization.

Effective youth arts organizations build strong pro-civic and pro-social values in young people, enhancing opportunities for youth to reshape the climate of their neighborhoods through local family entertainment, socialization for younger children, public service work, and promotion of the arts in their communities.

With each passing year, American parents have put increasing effort into seeing that athletic team membership, participation in museum programs, and involvement in service learning are liberally reflected on college and employment applications. There is widespread agreement that the values and priorities of young people can be discerned in the ways they have organized their nonschool hours. If we ask employers what matters most in their choice of new employees, they respond "experience" and explain that for students and recent graduates, how they have chosen to spend their discretionary time tells much about what kind of employee they will be.

The ability to collaborate, stick to pursuits, show discipline, be expressive, and sustain challenging team memberships transfers well to the multiple demands of the information-based projects and performances that mark American corporations and small-business

¹² We reject the types of calculations based on young people as problems or likely criminals. Such projections, especially for youth "at-risk," assume such young people "go bad." Therefore it is necessary to look ahead to the total costs of youth services, court costs and related personnel expenditures (probation officers, social workers, etc.), imprisonment costs, as well as teen pregnancy figures. Such a tactic leads to wild comparisons, generally in pursuit of convincing taxpayers they will "save" money on "these kids" if they help support designated causes. It is not uncommon for media reports to claim that "problem teenagers" may well be on a path that could cost "the public" \$36,000-\$100,000 annually per youth. These ways of calculating fit into the current societal yearning to blame and to control young people, even when hard statistical facts will not support such claims as "increased youth violence"; for extensive examination of these points, see Males 1996, 1999.

¹³ This nugget of wisdom was passed on to Heath from Arnold April, Executive Director of the Chicago Arts Partnerships in Education.

entrepreneurships. The quality of family and civic life and the sustenance of religious organizations depend on individuals' abilities to balance personal freedom and interdependence, listening and responding, obligation and exploration. No one can deny the value of practice and opportunity for cultivating these abilities and the merits of experience in drama, dance, music, and the visual and media arts in community-based organizations.

Such organizations, fashioned and sustained largely by youth and professional artists, should be acknowledged for their ability to expand, complement, and activate the learning provided by schools and families. These groups help fill the institutional gap. Needed most to multiply these organizations is broad recognition of the importance of experience with the roles and risks of the arts for all children, not just those from affluent families with high aspirations for their offspring. Widespread demonstration of successful organizations must also take place, along with professional development opportunities in which adults and older youth examine processes of organizational learning and new avenues of funding nonprofits. Research and evaluation will have to accompany all these moves to help us be wise as we chart the future.

In essence, both facts and imagination should guide us. If they do, it is just possible that what we learn and do will suggest new explanations of ways to achieve full individual and societal competence. The American poet, Wallace Stevens, once remarked "In the presence of extraordinary actuality, consciousness takes the place of imagination." What goes on through the arts for young people in highly effective learning environments of community organizations is just this kind of actuality. Consciousness is called for.

REFERENCES

- Carnegie Council on Adolescent Development. 1992. *A Matter of Time: Risk and opportunity in the nonschool hours*. New York: Carnegie Corporation of New York.
- Csikszentmihalyi, M. & Larson, R. 1984. *Being Adolescent*. New York: Basic Books.
- Heath, S. B. forthcoming. Making Learning Work. To appear in *After School Matters*. 1:1.
- Heath, S. B. & Langman, J. 1994. Shared Thinking and the Register of Coaching. In *Sociolinguistic Perspectives on Register*. D. Biber & E. Finegan, eds. New York: Oxford University Press. Pp. 82-105.
- Heath, S. B., Soep, E., & Roach, A. 1998. Living the Arts through Language Learning: A Report on community-based youth organizations. *Americans for the Arts* 2.7:1-20.
- Males, M. 1996. *The Scapegoat Generation*. Monroe, ME: Common Courage Press.
- Males, M. 1999. *Framing Youth: 10 myths about the next generation*. Monroe, ME: Common Courage Press.
- McLaughlin, M. W., Irby, M., & Langman, J. 1994. *Urban Sanctuaries: Neighborhood organizations in the lives and futures of inner-city youth*. San Francisco, CA: Jossey-Bass.
- Mulgan, G. 1997. *Connexity: How to live in a connected world*. Cambridge, MA: Harvard Business School Press.
- Newman, K. S. 1999. *No Shame in my Game: The working poor in the inner city*. New York: Russell Sage Foundation.
- Ochs, E., Taylor, C., Rudolph, D. & Smith, R. 1992. Storytelling as a theory-building activity. *Discourse Processes* 15:37-72.
- Schwartz, P. 1991. *The Art of the Long View: Planning for the future in an uncertain world*. New York: Doubleday.
- Soep, E. 1996. An Art in Itself: Youth development through critique. *New Designs for Youth Development*. Fall, 1996: 42-46.
- Tannock, S. 1998. Noisy Talk: Conversation and collaboration in a youth writing group. In *Kids Talk: Strategic language use in later childhood*. S. M. Hoyle & C. T. Adger, eds. New York: Oxford University Press. Pp 241-265.

**Learning In and Through the Arts:
Curriculum Implications**

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OVERVIEW OF THE STUDY

"You are talking to someone who had very little to do with the arts before I came here. This has changed me enormously. I have an appreciation for the arts that I never had before. I have seen youngsters come through here who perhaps weren't as motivated, and I have seen them take off and fly because we pulled them into an art and opened up new avenues. I couldn't work anymore in a school that wasn't totally immersed in the arts." Middle School Principal

Based on a study of over 2000 pupils attending public schools in grades 4–8, a group of researchers from Teachers College Columbia University, found significant relationships between rich in-school arts programs and creative, cognitive, and personal competencies needed for academic success.

The study began by asking three inter-related questions: What is arts learning? Does it extend to learning in other school subjects? What conditions in schools support this learning?

The researchers found that young people in "high-arts" groups performed better than those in "low-arts" groups on measures of creativity, fluency, originality, elaboration and resistance to closure—capacities central to arts learning. Pupils in arts-intensive settings were also strong in their abilities to express thoughts and ideas, exercise their imaginations and take risks in learning. In addition, they were described by their teachers as more cooperative and willing to display their learning publicly.

In schools with high-arts provision, these competencies and dispositions also emerged in other subject areas when particular tasks evoked them. In such schools, teachers of non-arts subjects, such as science, math, and language, frequently speak of what they see as the extended effects of arts learning on learning in their disciplines. They comment on abilities such as thinking creatively and flexibly, imagining ideas and problems from different perspectives, taking imaginative leaps, and layering one thought upon another as part of a process of problem solving. In arts-rich

schools, pupils are also seen by their teachers as curious, able to express ideas and feelings in individual ways, and not afraid to display their learning before their teachers, peers, and parents.

These responses frame what is interpreted in this monograph as a dialectical relationship between the different subject disciplines. Learning advances in depth through the challenge of traveling back-and-forth across subject boundaries.

The study found that the arts add the kind of richness and depth to learning and instruction that is critical to healthy development only in schools where arts provision is rich and continuous, administrators supportive, and teachers enlightened. The policy implications of this study are profound, particularly as they impinge upon in-school arts provision and teacher education.

Methodology of the Study

The Learning In and Through the Arts study was undertaken by the Center for Arts Education Research at Teachers College Columbia University and examined the artistic experiences of over 2000 pupils in public elementary and middle schools.¹ The goals were to determine what cognitive, social, and personal skills are developed through arts learning, if these competencies have a more general effect on learning, and what conditions in schools support this learning.

We recognized at the outset that the practice of arts teaching in schools is extremely diverse. The arts are taught in a variety of ways and configurations and in the contexts of four disciplines—visual arts, music, dance, and drama. Some programs in schools integrate the arts, while others integrate the arts within the general academic curriculum. Still others teach them

¹ Support for this study was provided by The GE Fund and The John D. and Catherine T. MacArthur Foundation. Details of the procedures and analysis employed in this study can be found in Burton, Horowitz and Abeles (1999), *Learning In and Through the Arts: Transfer and Higher Order Thinking*. New York: Center for Arts Education Research, Teachers College, Columbia University. This report was prepared with the invaluable assistance of Barbara Salander, Research Associate of the Center.

as separate disciplines. Moreover, the arts can be taught by three different kinds of instructors, each of whom brings divergent goals, practices, and conceptions of arts learning. These are specialist teachers, general classroom teachers, and external arts providers such as artists and performers from cultural institutions. In light of this diversity we rejected a narrowly focused study of one program, art form, or behavioral outcome on the basis that such an approach would most likely be context specific and not reflective of a broad spectrum of learning.

We thus designed a study to examine a broad spectrum of arts learning as it is played out within public schools and programs. We combined several standardized measures, with paper and pencil inventories, designed to elicit the responses and opinions of pupils and teachers. Specifically, we administered the Torrance Test of Creative Thinking, which measures creative thinking abilities. We also employed the Self-Description Questionnaire, which measures self-concept, and we administered the School-Level Environment Questionnaire as a tool for evaluating aspects of school climate, such as the way teachers and pupils interact.² Where standardized measures did not exist, or were inadequate, we designed and administered our own measures.

² According to the test author, the Torrance Test of Creative Thinking measures creative thinking abilities, defined as a constellation of generalized mental abilities commonly presumed to be brought into play in creative achievements (Torrance, Ball and Safter, 1992). Although this test has been criticized in recent years for overly emphasizing fluency and not considering the intrinsic, personal meaning and value of creative thought, the researchers selected it because it has remained the most widely used yardstick for measuring the creative impact of arts learning. Other advantages are that it is relatively easy to administer and is normed for different age groups.

The Self-Description Questionnaire (SDQ-1) is based on a hierarchical model of self-concept developed by Shavelson (Shavelson, Hubner, and Stanton, 1976) and provides data on three areas of academic self-concept: reading, mathematics, and general-school (Marsh, Byrne, and Shavelson, 1988).

The School-Level Environment Questionnaire (SLEQ) was selected to measure factors associated with school climate. Several of these dimensions approximated potential outcomes of arts programming derived from our interview data, such as changes in teacher practice and teacher-student relationships (Rentoul, J. and Fraser, B. L., 1983).

Specifically, the research team developed a Teacher Perception Scale to measure teachers' judgments about qualities such as risk-taking and creativity on the part of individual children. The Classroom Teacher Arts Inventory assessed teachers' practices and attitudes regarding the arts, and the Student Arts Background Questionnaire determined how much in-school experience children had had with the arts.³

While these measures gave us a great deal of critical numerical data, we also sought to capture a more evocative picture of arts learning, to probe deeper meanings and to enlarge our understanding of the context in which the learning was taking place. Thus, we interviewed school administrators, general classroom, and specialist subject teachers in science, mathematics, and language. Over the two-year span of the research the team spent many hours in the schools talking with administrators, teachers, and children, observing classrooms, and attending a diverse range of performances and exhibitions. At team meetings we examined field notes, pupils' artwork, writing, and photo-documentation of in-school activities.

Before the study began, we assumed that we could find research sites where arts experiences would be variable but consistent within schools. The number of arts subjects offered in the schools we observed ranged from none to three or four arts subjects. Depending on the particular situation, arts instruction was offered by specialist teachers, taught by classroom generalists, or provided by visiting artists and performers.

³ The research team developed the Teacher Perception Scale (TPS) to measure classroom teachers' viewpoints of individual children within four dimensions (expression, risk-taking, creativity-imagination, and cooperative learning). These dimensions were based upon analysis of teacher interviews, and reflect potential outcomes of arts teaching not directly measured by our other quantitative instruments. The Classroom Teacher Arts Inventory (CTAI) contains scales measuring classroom and academic teachers' practice and comfort level with arts education. It examines the degree to which teachers believe they integrate the arts, collaborate with other arts providers, and whether they intentionally use arts as a tool to teach other subjects. In the Student Arts Background (SAB) questionnaire, children were asked to indicate the number of years they had received in-school arts instruction.

We invited a broad cross section of arts educators to suggest elementary and middle schools that fit within one of five types reflecting this diversity of provision. By studying two schools from each type we believed we would be able to make comparisons among different approaches to arts teaching. We visited 28 of 150 nominated schools, often several times, and it quickly became apparent that schools did not fit easily into specific types. Instead, we found pockets of different kinds of arts instruction existing side by side in single schools, even across single grade levels. We found that children in many schools received unequal arts provision, sporadic teaching, and unevenly sequenced instruction.

In light of this discovery, we concluded that the best approach would be to treat each school as a complex combination of types of arts provision within which we could track the experiences of individual groups of children. Thus, we rated each school in our study on three seven-point scales, identifying the degree to which they were arts integrated, arts-rich or employed external arts providers.

We invited 18 schools to participate in a preliminary data collection for the study. Twelve schools were selected for more extensive study, and four of them became sites for in-depth case studies. In all, we examined the artistic experiences of 2046 children in grades four, five, seven, and eight. They attended public schools in New York, Connecticut, Virginia, and South Carolina.

The Arts and Creative Thinking Abilities

We first examined our numerical data in order to see if there was a pattern to the kind of art experiences to which children were exposed in schools. We were particularly interested in how these experiences related to creative thinking abilities and to teachers' perceptions of artistic capacities. We found that there were significant associations among these measures. In order to explore this finding more fully, we looked at the number of years children had received in-school arts instruction and the range of different arts they

had studied during this time. These data were then assigned to either a high-arts exposure or low-arts exposure group. The high-arts group consists of the upper quartile of children based on the amount of in-school arts instruction they received. Similarly, the low-arts group consists the lower quartile of children. A typical 5th grader in the high-arts group might have received art and music instruction for at least three continuous years, as well as a full year each of drama and dance. A child in the low-arts group might have had one year or less of music and art, and no drama or dance instruction.

As we compared the experiences of the children in the respective groups we saw immediately that the high-arts group consistently outscored the low-arts group on measures of creative thinking and teachers' perceptions of artistic capacities. (See Figure 1)

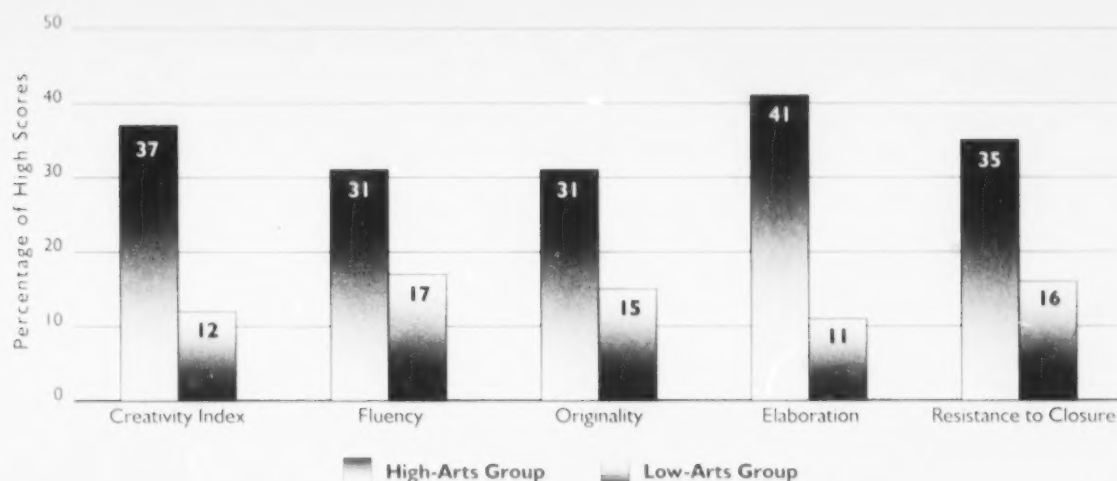
More detailed analysis showed that youngsters included in the high-arts groups scored well on measures of creativity, fluency, originality, elaboration, and resistance to closure.⁴ In our many conversations and interviews with arts specialists, arts providers, and teachers of other subjects, we heard time and again how these same capacities are critical to arts learning as well as to other subject disciplines. In the arts, whether visual, music, dance, or drama, the ability to explore myriad ideas, envision and try out unusual and personal responses, consider objects, ideas, and experiences in detail, and be willing to keep thoughts open long enough to take imaginative leaps, are all important.

Arts Involvement and General Competencies

Young people included in the high-arts groups also scored more strongly in terms of academic teachers' perceptions of their general competencies. As shown in Figure 2, data reveal that youngsters in the high-arts

⁴ Fluency represents the number of ideas or solutions that a person expresses when faced with a stimulus or problem. Originality refers to the unusual quality of responses, while elaboration is the imagination and exposition of detail. Resistance to closure represents the ability to keep open to new possibilities long enough to make the mental leap that makes possible original ideas. The creativity index is an overall creativity score (Torrance, Ball, and Satter, 1992).

Figure 1: Creative Thinking Abilities

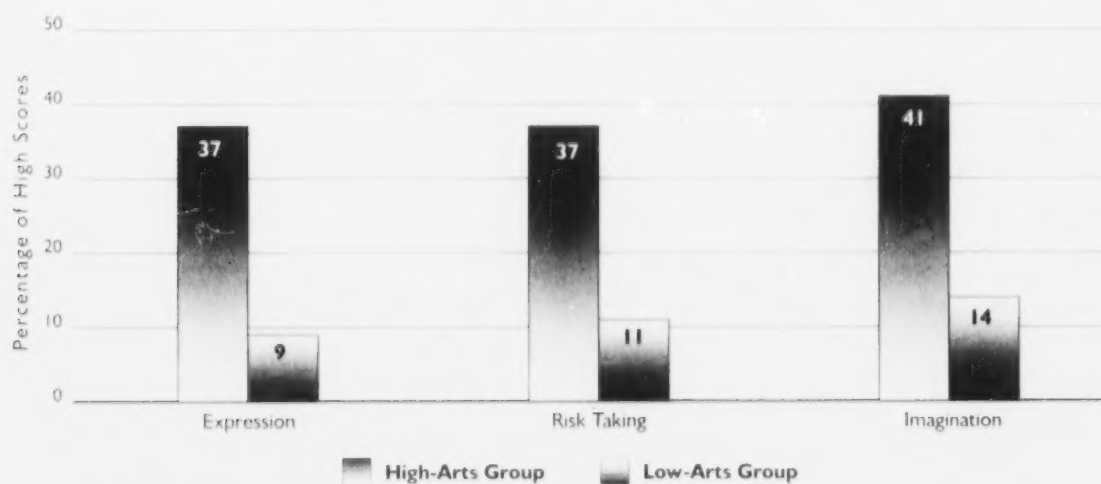


group were stronger than those in low-arts groups in their ability to express their thoughts and ideas, exercise their imaginations, and take risks in their learning. Moreover, they were also more cooperative and showed a greater willingness to display their learning before a community of their peers and parents.

Our interview and observation data offered a rich context for understanding these results. Teachers

emphasized that young people involved in the arts were able to unify divergent thoughts and feelings within representational forms that make it possible for them to express their ideas in many different ways. Similarly, arts subjects provide frameworks of learning where it is permissible, and desirable, to take imaginative leaps and to envision new possibilities and probabilities. Above all, the arts are subjects where young people can take

Figure 2: Arts Involvement and General Competencies



risks in their thinking as they try out new and unexplored arenas of learning.

We also speculated that the arts, by their very nature, require a great deal of collaboration and cooperation in their creation. Even the visual arts, usually thought of as solitary activities, can involve youngsters in collaborative enterprises such as painting murals and scenery, producing books, and organizing exhibitions. Pupils involved in arts learning come to know first-hand what it means to share and learn from each other.

Unlike other school subjects, the arts present a public face to learning. Paintings can be seen, music heard, and dance and drama experienced by everyone. Learning in the arts inevitably involves some measure of willingness to perform or display publicly, to reveal accomplishments, to garner appreciation, and to learn from the critiques of others.

Arts Involvement and Perceptions of Self as Learner

The data revealed some interesting differences in the children's own perceptions of themselves as learners. High-arts youngsters were far more likely than their low-arts counterparts to think of them-

selves as competent in academics. They were also far more likely to believe that they did well in school in general, particularly in language and mathematics. (See Figure 3)

As with other findings, these results were validated by our observations of classrooms and in conversations with teachers and administrators. They confirmed that youngsters exposed to strong arts education acquire a sense of confidence in themselves that radiates beyond the studios and performance spaces. (See Figure 4) One might also speculate that the kind of persistence that it takes to be successful in the arts, particularly in the processes and organization required to represent thoughts and ideas, would have general cross-curriculum relevance.

Arts Involvement and School Climate

Administrators and teachers in high-arts schools attributed many positive features of their in-school climate to the arts. We found that schools with strong arts programs had supportive administrators who played a central role in ensuring the continuity and depth of provision. They encouraged teachers to take risks, learn new skills, and broaden their curriculum.

Figure 3: Arts Involvement and Perceptions of Self as Learner

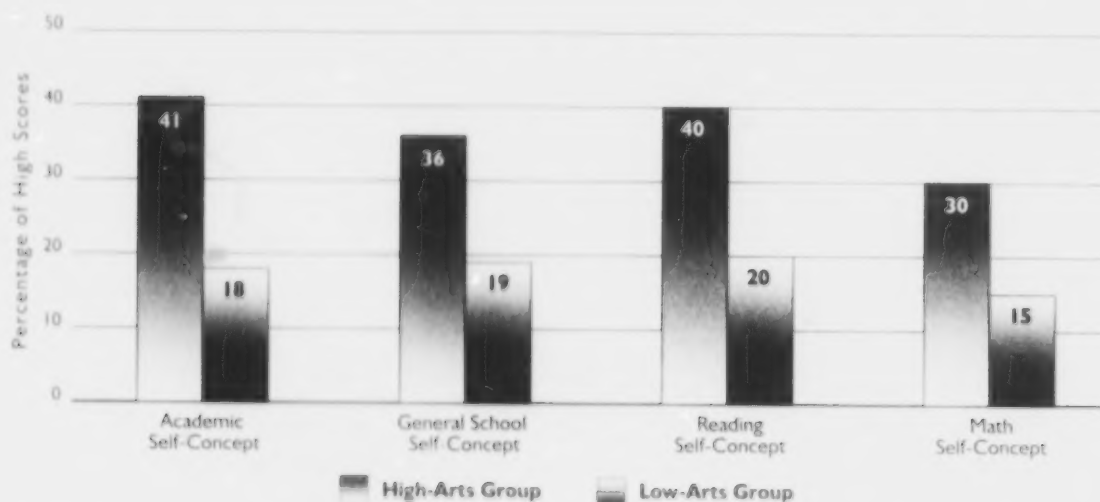


Figure 4: SDQ-I (Self-Concept) Scores Compared to The Number of Years of In-School Arts

SDQ-I Scores	High-Arts Group	Low-Arts Group
Physical Ability S-C	29.65%	20.08%
Physical Appearance S-C	27.40%	24.31%
Peer Relations S-C	29.45%	23.26%
Parent Relations S-C	35.17%	24.31%
General Self-Concept	36.81%	27.48%
Reading S-C	40.49%	20.08%
Mathematics S-C	29.86%	15.43%
General School S-C	35.79%	18.60%
Total Non-Academic S-C	33.33%	24.31%
Total Academic S-C	41.10%	17.76%
Total S-C	34.15%	17.97%

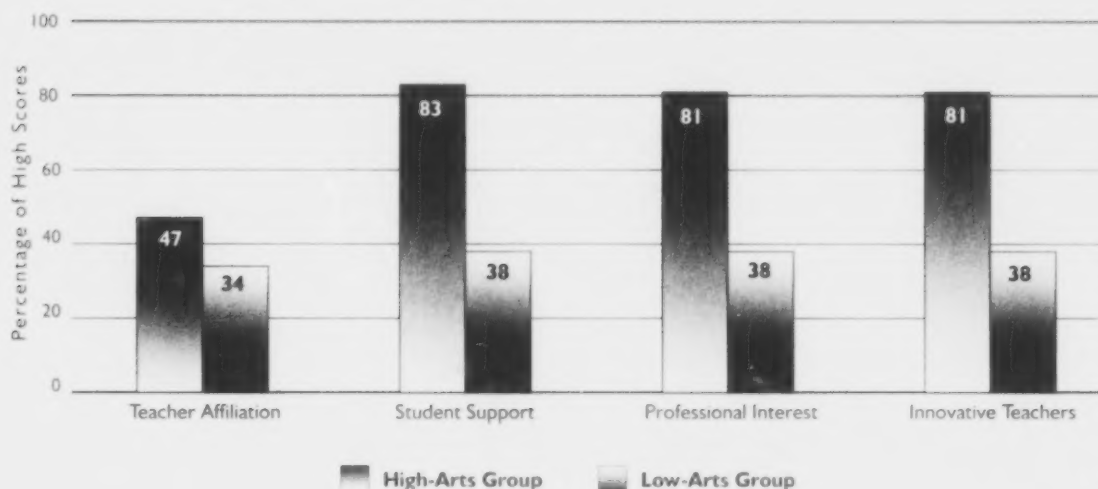
Similarly, we found specialist arts teachers who were confident in their pedagogy and practice, knowledgeable about pupils' abilities and personalities, innovative in their approaches to learning, and who also enjoyed collaborating with other arts specialists and teachers of other subjects.

The findings of our study show that children in arts-rich schools are more likely than children in low-arts schools to have good rapport with their teachers. (See Figure 5) In a similar vein, the results show that teachers in arts-rich schools demonstrate more interest in their work and are more likely to become involved in professional development experiences. These teachers work in schools that favor change and experimentation. They also are more likely to be innovative in their teaching. The data on teacher affiliation show that such teachers tend to have good working relationships with other teachers in their school. In the high-arts settings, we found considerable flexibility in curriculum design, with less emphasis on conformity, formalization, or centralization.

Finally, it should be noted that when we examined our school sample for socio-economic status, we discovered that the results of our study were more firmly tied to rich arts provision than to high economic status.

A great deal of data came from our interviews with specialist teachers in language, science, and mathematics, as well as from our observations in classrooms and attendance at exhibitions and performances. While

Figure 5: Arts Involvement and School Climate



some of these data came from conversations and visits to our preliminary 28 schools, most of it came from our case studies in the four schools where we spent continuous time. These data were carefully coded according to their frequency across the entire sample, across each school, and in terms of their quality. These findings allowed us to expand on, and in many cases, clarify the meaning of our quantitative findings.

Specific Dimensions of Ability

We found in schools with high-arts provision that teachers spoke of the effects of arts learning along five specific dimensions of ability. These were the ability to:

- Express ideas and feelings openly and thoughtfully;
- Form relationships among different items of experience and layer them in thinking through an idea or problem;
- Conceive or imagine different vantage points of an idea or problem and to work towards a resolution;
- Construct and organize thoughts and ideas into meaningful units or wholes; and
- Focus perception on an item or items of experience, and sustain this focus over a period of time.

Arts Competencies and Other Disciplines

Taken together, our cumulative data offer a very evocative, complex, and multi-dimensional picture of arts learning. As we looked more closely at these data a consistent factor emerged, namely, that the appearance of arts competencies in other disciplines was found in contexts where, for example:

- There was a need for pupils to figure out or elaborate on ideas on their own;
- There was a need to structure and organize thinking in light of different kinds of experiences;
- Knowledge needed to be tested or demonstrated in new and original ways; and
- Learning involved task persistence, ownership, empathy, and collaboration with others.

For instance, these competencies were called upon when a theory in science could be understood more fully through the construction of a three dimensional mobile; or when a mathematical problem could be approached more easily through a closely observed drawing of a shell; or when a Pythagorean theorem became clear through the creation of a drama confronting social class; or when a moral dilemma could be focused more fully through the creation of an opera.

In subjects such as science, mathematics, and language, invitations to accommodate conflicting ideas, to formulate new and better ways of representing thoughts, and to take risks and leaps call forth a complex of cognitive and creative capacities. These capacities are typical of arts learning. Indeed, what is particularly interesting about this grouping of responses is that it reveals a rich interweaving of intuitive, practical, and logical forms of thought at work advancing the range and depth of children's thinking. This kind of mix of intuitive and logical thinking is, of course, highly typical of most creative artists, scientists, and thinkers in general. At a more mundane level, it also characterizes how we deal with the challenges of everyday living!

Relationship of Arts Learning to Other School Disciplines

A number of recent studies have investigated the effects of learning in the arts upon other subjects.⁵ Not only have the results of these investigations been unclear but they have been much in dispute. On the one hand, it has been argued that learning in the arts is context bound, specific and important in and of itself.⁶ On the other hand, it has been suggested that learning in the arts is more general and plays a critical role in serving and supporting other disciplines.⁷ Based on our findings we wish to offer another interpretation of the relationship between learning in the arts and in other

⁵ See Catterall, 1998; Luftig, 1994; Moore and Caldwell, 1993; Redfield, 1990.

⁶ See Eisner, 1998.

⁷ See Perkins, 1994; Perkins, 1989.

subjects. But first, we need to complete the picture of arts learning that emerged from our study.

In essence, our study reveals that learning in the arts is complex and multi-dimensional. We found a set of cognitive competencies—including elaborative and creative thinking, fluency, originality, focused perception, and imagination—which grouped to form constellations in particular instructional contexts. These contexts elicit the ability to take multiple perspectives, to layer relationships, and to construct and express meaning in unified forms of representation.

In our study, we have come to call these competencies “habits of mind” rather than higher order thinking, as is more usual. We believe that this term captures more fully the flexible interweaving of intuitive, practical, and logical modes of thought that characterizes arts learning.

These habits of mind are accompanied by an array of personal dispositions such as risk taking, task persistence, ownership of learning, and perceptions of academic accomplishment in school. Since these habits of mind and dispositions are prevalent in schools where children have studied the arts continuously over time and have experienced learning in several arts, we argue that they are typical of arts learning itself.

As we have seen, this learning is not only characteristic of the arts but, in arts-rich schools, certain features of it are evident in other subject disciplines when specific task demands call them into being. Thus, we suggest that the relationship between arts learning and learning in other disciplines may not be as unidirectional—from the arts to other disciplines—as other studies have implied. Rather, the relationship may be more dynamic and interactive than is usually acknowledged. In other words we question whether transfer—or a one to one correspondence whereby one discipline serves another—is the only, or even an appropriate, way to conceptualize the relationship across disciplines. The unidirectional model is much too simplistic and ill serves the complexity of thinking involved in learning.

We speculate that the presence of habits of mind that emerge in both arts learning and learning in other

subjects consists of a dialectic involving the cumulative effects of participating disciplines. For instance, we observed a classroom where the study of Vietnamese art, music, and literature was combined with reading letters from soldiers who served in the war. This combination of learning activities created a context for a visit to the Vietnam War Memorial, and a subsequent discussion of the conflict between personal commitment, culture, and national loyalty, which unfolded in a group-authored play. In this example, the movement back-and-forth across disciplinary boundaries led to the accumulation of knowledge in a variety of disciplines. Even more importantly, however, it allowed for a measure of critical reflection on and within each discipline. What this example reveals is something akin to a continuous, ongoing conversation—a language exchange, in which reciprocity acts as a pre-requisite for new learning and the construction of meaning.

When well grounded in the kind of learning we observed, the arts develop children’s minds in powerful ways. In arts learning young people become adept at dealing with high levels of ambivalence and uncertainty, and they become accustomed to discovering internal coherence among conflicting experiences. Since young people live in worlds that present them with different beliefs, moralities, and cultures, schools should be the place where learning fosters the reconciliation of apparent differences.

In arts-rich schools, where conversations take place across the disciplinary boundaries, young people learn that mathematics might challenge the arts to examine relationships among objects in ways that extend their conceptions of number. Similarly, in the back-and-forth between science and art, pupils learn that close observation and investigation of natural phenomena can proceed either according to prescribed theories or according to personal perceptions—and that both types of investigations offer fresh understanding of the same phenomena. The transmission of feelings and meaning captured in language learning offers a challenge to the arts to discover how such experiences assume new and different layers of

interpretation if encoded in images, movement, or musical sound.

In such cross-disciplinary conversations involving the arts, young people are given permission to go beyond what they already know and to move towards new horizons for their learning.

Educational Implications of the Study

The results of our study offer empirical evidence that learning in arts-rich schools is complex and that it is most successful when supported by a rich, continuous, and sequenced curriculum. We also have clear empirical evidence that children, in what we have called the low-arts schools, are less able to extend their thinking. It appears that a narrowly conceived curriculum, in which the arts are either not offered or are offered in limited and sporadic amounts, exerts a negative effect on the development of critical cognitive competencies and personal dispositions. This conclusion brings to mind our original experience in choosing school sites for our study. In the many schools we visited, arts provision was almost uniformly inconsistent and sporadic.

Arts-rich schools offer a picture of a curriculum that is neither formalized nor centralized, but rather is open and flexible. Within these schools it was clear that teachers thought about, and accepted, a variety of different ways for pupils to be creative, to exercise skills and to think through problems, and exercise imagination in the construction of paintings, musical compositions, choreography, and plays. This suggests that a flexible curriculum which paces in-depth arts experiences to a sensitive appreciation of developmental needs leads to learning that combines the kind of persistence and confidence necessary for academic accomplishment.

Taking our cue from the arts-rich schools in this study, we might envision an ideal curriculum as one that offers in-depth, carefully sequenced teaching in several art forms for the entire span of young peoples' schooling. Teaching would be carried out by properly educated specialist teachers who are both committed

to their own art forms and knowledgeable about the socio-cultural background and development of the young people they teach. An ideal curriculum would enable arts teachers to collaborate with each other, with teachers from other disciplines, and with visiting artists and other arts providers. This kind of curriculum requires careful planning. Teachers need the time to collaborate in disciplinary and cross-disciplinary groups in order to research and frame the learning to which they will contribute. They will also need administrative support in arranging the daily timetable so that pupils have long stretches of time in which to research and try out ideas and to stretch their thinking as far as it will go—both within and across disciplines.

As part of this extended time for learning, pupils need to be able to use cultural institutions—art, science, and natural history museums, botanical gardens, concert halls, and so forth—much as they would use a library for research purposes. The arts-rich schools in our study were characterized by a flexibility, knowledge, and openness in the way that teachers planned and delivered instruction. One can only imagine what they might have accomplished, had they been able to restructure their school days in support of even greater expectations for learning.

One unexpected outcome of our study under-cuts the debate about whether or not the arts are core or ancillary to learning across the curriculum. Our findings led us to the conclusion that, all things being equal, the arts are neither ancillary nor core but rather that they are participants in the development of critical ways of thinking and learning. In schools with rich arts provision this argument can be sustained on the basis of the constellation of capacities that are nurtured in arts learning and that characterize the dialectical relationship between the arts and other subjects. By contrast, in schools with a paucity of arts provision the arts may well be considered ancillary because they do not have the capacity to promote the ways of thinking that, by interacting dynamically with other subject domains, offer children generative and complex

learning. If schools hope to offer a curriculum of study designed to help children develop as productive thinkers and citizens—and sometimes as artists—then they must not force them into narrow channels by depriving them of the kind of learning challenges that develop the richness of their minds.

Policy Implications of the Study

Given the findings presented here, schools should develop and offer to their pupils a critical mass of arts subjects in visual arts, music, dance, and drama. Within this provision young people must be allowed to study as fully as possible across the arts disciplines. Our results show very clearly that the habits of mind and personal dispositions needed for academic success were nurtured in high-arts schools where young people had pursued several arts over a duration of time. There was a negative correlation between schools with a paucity of arts instruction and all cognitive and personal dimensions of our study. Thus, schools interested in nurturing complex minds should provide a critical mass of arts instruction over the duration of young peoples' school lives.

We need to stress that while arts learning is unique, in participation with other disciplines, it serves the cause of promoting the intellectual development of young people. The double face of arts learning—its simultaneous openness and closedness—gives it a special role in the curriculum. Educational policy, therefore, needs to bear in mind that in the best possible world neither arts learning nor learning in other subjects is sufficient unto itself. As is clear from our study, just because school subjects are different does not mean they are precluded from being able to work together beneficially.

The Need for Well Educated Teachers

This study found that teachers in the high-arts schools were more open, flexible, knowledgeable, and engaged in their own ongoing learning than were teachers in the low-arts schools. It seems clear that if we want to develop complex arts instruction, with all

that it implies for pupils' learning and development, then we need a school arts policy that calls for a more rigorous and ongoing education for teachers.

We need teachers who—through their own experiences in the arts—are complex, reflective thinkers and practitioners, knowledgeable about the young people they teach and the cultures that define them. Arts teachers need to be able to balance teaching both in and across their disciplines, which implies the ability to be collaborative and aware of possibilities for learning beyond their own specializations.

CONCLUSIONS

Arts learning, involving as it does the construction, interweaving, and interpretation of personal and socio-cultural meaning, calls upon a constellation of capacities and dispositions which are layered and unified in the construction of forms we call paintings, poems, musical compositions, and dances. Many of these same competencies and dispositions extend to other subject domains where they coalesce in equally distinctive forms—mathematical, scientific, linguistic—as pupils organize different kinds of meaning, insight, and understanding.

What is critical is not that capacities and dispositions transfer from the arts to other subject areas, as has often been argued, but that they are exercised broadly across different knowledge domains. Given this interpretation, no subject has prior rights over any other subject, for to diminish one is to diminish the possibility and promise of them all. If the arts are to help define our path to the future, they need to be become curriculum partners with other subject disciplines in ways that will allow them to contribute their own distinctive richness and complexity to the learning process as a whole.

REFERENCES

- Catterall, J. S. (1998). Does experience in the arts boost academic achievement? A response to Eisner. *Art Education*, 51 (4) 6-8.
- Eisner, E. W. (1998). Does experience in the arts boost academic achievement? *Art Education*, 51 (1) 7-15.
- Luttfig, R. L. *The Schooled Mind: Do the Arts Make a Difference? An Empirical Evaluation of the Hamilton Fairfield SPECTRA+ Program, 1992-93*. Center for Human Development, Learning, and Teaching, Miami University, Oxford, Ohio, 1994.
- Marsh, H. W., Byrne, B. M., & Shavelson, R. (1988). A multitaceted academic self-concept: Its hierarchical structure and its relation to academic achievement. *Journal of Educational Psychology*, 80, 366-380.
- Moore, B.H. and Caldwell, H. (1993). Drama and drawing for narrative writing in primary grades. *Journal of Educational Research*, 8 (2), 100-110.
- Perkins, D. N. (1994). *The intelligent eye: Learning by looking at art*. Santa Monica, CA: Getty Center for Education in the Arts.
- Perkins, D. N., & Salomon, G. (1989). Are cognitive skills context bound? *Educational Researcher*, 18 (1) 16-25.
- Redfield, D. L. (1990). Evaluating the broad educational impact of an arts education program: the case of the Music Center of Los Angeles County's artists-in-residence program. Los Angeles, Center for the Study of Evaluation, UCLA Graduate School of Education.
- Rentoul, L., & Fraser, B. I. (1983). Development of a School-Level Environment Questionnaire. *The Journal of Educational Administration*, XXI (1), 21-39.
- Shavelson, R. J., Hubner, J. L., & Stanton, G. C. (1976). Self-Concept: Validation of Construct Interpretations. *Review of Educational Research*, 46 (3), 407-441.
- Torrance, E.P., Ball, O.E., & Satter, H. T. (1992). *Torrance tests of creative thinking: streamlined scoring guide to figural A and B*. Bensenville, IL: Scholastic Testing Service.

Chicago Arts Partnerships in Education Summary Evaluation

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INTRODUCTION

The Chicago Arts Partnerships in Education (CAPE), was founded in 1992 amidst a small upsurge of interest and funding availability for the arts in the Chicago Public Schools. The Chicago School Board had begun providing for a half-time art or music teacher in schools long accustomed to having none, and newfound flexibility in federal programs brought another half of an arts teaching position to many schools.

With the support of Chicago foundations and corporations, including the MacArthur Foundation, the Chicago Community Trust, the Polk Bros. Foundation, and Marshall Fields Inc., CAPE sought to build on this important arts revival through the creation of a program that would bring local artists and arts agencies into partnerships with teachers at all grade levels. These teacher-artist partnerships were charged with planning integrated instruction, joining instruction in an art form such as painting or music with specific instructional goals in other academic subjects such as reading or science. Small clusters of schools were invited to apply for grants that would support stipends for artist participants and assist with the support of coordinators. Sixty-four partnership proposals were submitted, of which fourteen were funded for initial planning, and the program was launched. When fully implemented, CAPE involved twelve clusters containing 37 schools and representing 53 professional arts organizations and 27 community organizations. Twenty schools remained active in the network throughout the six initial years of the program.

Assessment in Multiple Chapters. With a grant from the GE Fund, CAPE made a substantial commitment to assessment stretching from the first planning period, comprising the 1993-94 school year, to what CAPE referred to then as its implementation years, particularly 1995-1998. The North Central Regional Laboratory (NCREL) contracted with CAPE to provide

evaluation services throughout this time and has produced several interim reports and one final report. The Imagination Project at UCLA, under the direction of UCLA Professor James S. Catterall, was contracted to explore a specific set of evaluation-related questions during the 1998-99 school year.

Synopsis. The purpose of this monograph is to highlight the development of CAPE and its effects through the multiple inquiry lenses trained on the program over its first six years. The story is one of development and learning by school communities, teachers, and artists as they became increasingly and more deeply involved in arts-integrated instruction. It is also a story of increasingly tangible and measurable effects on student learning as the program matured.

I. THE NCREL EVALUATION

The major phases of NCREL's evaluation work were: (1) exploring the planning years to see what activities were taking place, where things worked well, and where things seemed to need improvement, (2) gauging the impact of the program on artists, teachers, classrooms, and students during implementation, and (3) measuring support from school and community based groups. NCREL's data collection activities concluded in spring of 1998, and their final report was issued in spring of 1999.

Both NCREL and the Imagination Project collected data on student achievement in reading and mathematics. NCREL examined data from 1992 through 1998 on a national basic skills test, the Iowa Test of Basic Skills, or ITBS. NCREL's analysis focused on the percentages of students performing at or above grade-level on tests administered between 1991 and 1998. The IP examined ITBS data and TAP test data from 1992 through 1998. The IP evaluation produced various comparisons between CAPE and non-CAPE schools, including high

Also assisting with this evaluation were research assistants Rebecca Catterall, Karen DeMoss, Kevin Pease, Kelly Stokes, and Ted Williams.

Our primary source for this information is "The Chicago Arts Partnership in Education, CAPE, A Comprehensive Summary of Evaluation Findings," Oak Brook, IL: NCREL, Matthew Harrison, Blaise Masini, Allison Cronmen/April, 1999. We do not emphasize in this 1999 summary NCREL's very early findings regarding CAPE's planning years, 1993 and 1994.

poverty schools only (about three-fourths of all sample schools). The IP also analyzed scores from the Illinois Goals Assessment Program (IGAP) test, a set of exams recently constructed to reflect state standards in several subjects and grade levels.

NCREL used large-scale surveys of teachers and students at particular junctures in an attempt to attain a generalizable portrait of the program and an overall view of CAPE classroom practices. The IP evaluation for 1998-99 was less concerned with generalizations about CAPE except in the case of student achievement effects. Rather than trying to produce descriptions of typical or average classroom practices, the IP study also focused attention on best integrated curricular practices by probing selected artist-teacher pairs, their classrooms, and their integrated lessons. The CAPE Board was interested at this point in the art of the possible—when things went well, what did this look like, why did it work, and what were the effects?

II. BRIEF SUMMARY OF NCREL FINDINGS—1993-1998³

Following are an overview and some highlights of NCREL's evaluations of the various impacts of the Chicago Arts Partnerships in Education. NCREL

³ Issued in April 1999 and referenced in footnote 1.

reports four main categories of effects: impacts on the classroom, effects on teachers and artists, impact on students, and support from school and community-based groups.

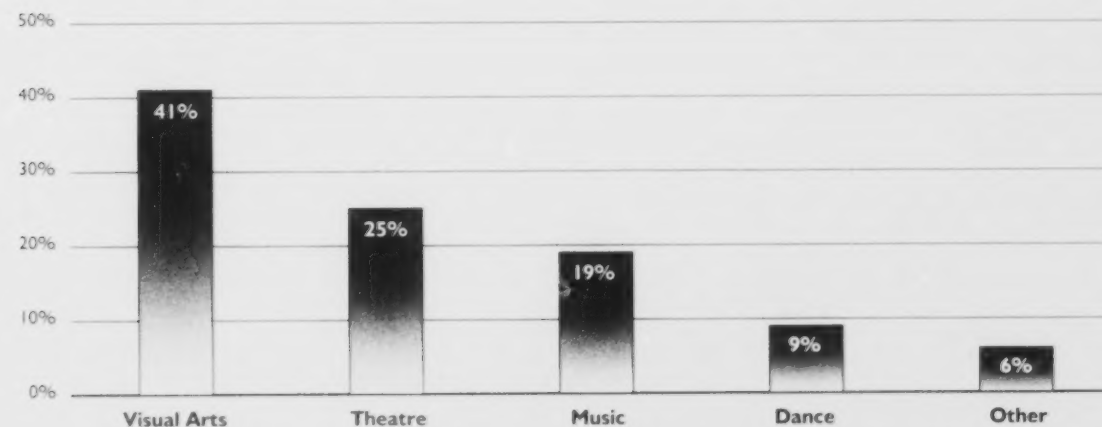
CAPE Impact on the Classroom.

NCREL reports various impacts of CAPE on classrooms, the most important of which seems to come from its 1997-98 survey of teachers addressing instruction and curriculum. This was the last year of NCREL's evaluation and the most "mature" year of the CAPE program to come under NCREL's scrutiny. Here is what they reported:

Extensive integration of CAPE into schools: More than 90 percent of teachers reported moderate (57%) or extensive (36%) integration of the CAPE program into their schools.

Most teachers involved in developing arts-integrated units. Fifty-four percent of teachers reported having developed one integrated unit and 24 percent reported having created four to five units. A unit here means working with an artist to develop an instructional sequence incorporating the art form with an academic teaching objective. The typical unit according to this survey was designed to last from four to six weeks. Seventy one percent of teachers in the 1998

Figure 1. Proportion of Time Instruction Focused on Specific Areas of the Arts — Spring 1998 (N=107)



Source: NCREL 1999 Final CAPE Evaluation Report, p. 14

NCREL survey reported teaching their units from one to three times.

Which art disciplines are enlisted? The NCREL survey analyzed which art forms proved the most popular with teachers under CAPE. Figure 1 shows that the visual arts (painting, drawing, sculpture, ceramics) clearly lead the way, with 41 percent of program teaching time devoted to these art forms. Theater attracts a quarter of all CAPE program instructional time, music 19 percent, and dance 9 percent.

Which academic subjects are integrated? The teacher survey also provided estimates of which subjects teachers and artists chose to focus on for their interdisciplinary units. Reading proved most popular, followed by social studies. Science was less than moderately integrated in CAPE units, and mathematics was least frequently chosen, as shown in Figure 2. (The numbers 1 through 4 in Figure 2 were assigned to calculate average levels of integration across responding teachers. The average scores are shown atop each column.)

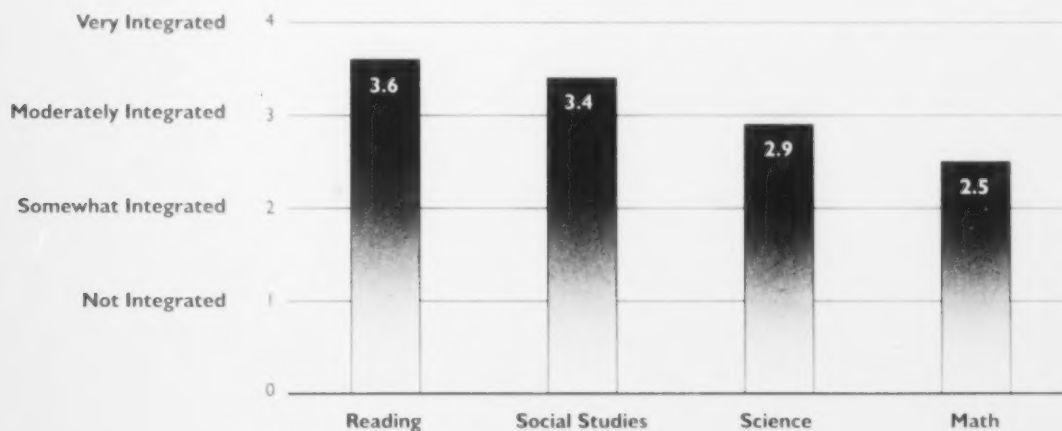
Teacher perceptions of school context. NCREL used district-wide teacher and student surveys to probe developments at CAPE schools. On teacher survey scales for school climate, quality of relation-

ships with parents, professional development, instructional practices, and relationships with the community, CAPE schools outscored non-CAPE schools in every case, although the differences were small and not statistically significant. We have seen similar patterns in other evaluation work and offer the following observation. When a school outperforms others on a long string of measures, the chances increase that some true differences exist. If the differences are attributed to random chance, as they are with statistical non-significance, the odds of five positive results in a row diminish to 1 in 64. Although we cannot say anything about which specific factors contribute to this difference, we conclude that these data show small differences in school context favoring CAPE schools.

Impact on Teachers and Artists

NCREL watched teachers and artists over four years through nearly all of their evaluation lenses: regular surveys, classroom observations, interviews, focus groups, document review, and case studies. The main reported CAPE impacts on teachers include the following:

Figure 2. Arts Integration in Four Subject Areas According to CAPE Teachers and Artists — Spring 1998 (N=118)



Source: NCREL 1999 Final CAPE Evaluation Report, p. 15.

High levels of teacher-artist collaboration in both preparation and instruction. In the 1998 teacher survey, 91 percent of teachers claimed to engage in such collaboration. NCREL noted a significant shift from teachers teaching arts skills toward devoting increased time to integrating the arts with academics between 1995 and 1998. Artists consistently devoted about half their time to arts instruction and half their time to integration activities.

Extensive buy-in by participating teachers. As we noted above when discussing impact on classrooms, there were very high levels of participation by CAPE teachers. Most created and implemented teaching units with participating artists, and most used them multiple times. Nearly a fourth of all CAPE teachers created 4 or 5 different units.

CAPE professional development workshops. CAPE offered 11 workshops in 1997-98. On the one hand, teachers claimed that the professional development offerings were valuable; on the other hand, the typical teacher attended only one to three of the 11 sessions. We do not have data from other years. The participation reported for 1997-98 points to the substantial time issues facing participating teachers. Among these issues was the fact that teachers and artists often work on quite different schedules. Another is that the job of teaching is very time demanding, especially when teachers devote after-school hours to extracurricular activities, evaluating homework and tests, and lesson planning. (These issues exist in the general context of the challenges to scheduling effective professional development in large urban school systems).

Impact on Students

NCREL reported student effects in three areas:

Positive student attitudes about arts-integrated instruction. NCREL reported that, according to a student survey, students had generally positive opinions about arts-integrated instruction. When asked if they enjoyed lessons in the arts and if these lessons made learning fun, 94 percent of elementary school

children, 50 percent of middle school youngsters, and 86 percent of high school students answered yes.

No differences in student motivation scales. The student survey allowed the construction of measures of student achievement motivation, including academic engagement, liking school, self-efficacy, and press for academic achievement. While CAPE students slightly outscored non-CAPE students on all but the academic engagement scale, none of the differences were statistically significant.

Emerging positive trends in ITBS Scores. NCREL compared the reading and math scores of 17 CAPE schools with a sample of 17 non-CAPE schools chosen to replicate the CAPE schools on measures of student demographics and past performance. Using the percentages of students scoring above grade level as an indicator, NCREL reported that the gap favoring CAPE schools began to widen during test years 1996 and 1997. The difference was not yet statistically significant.

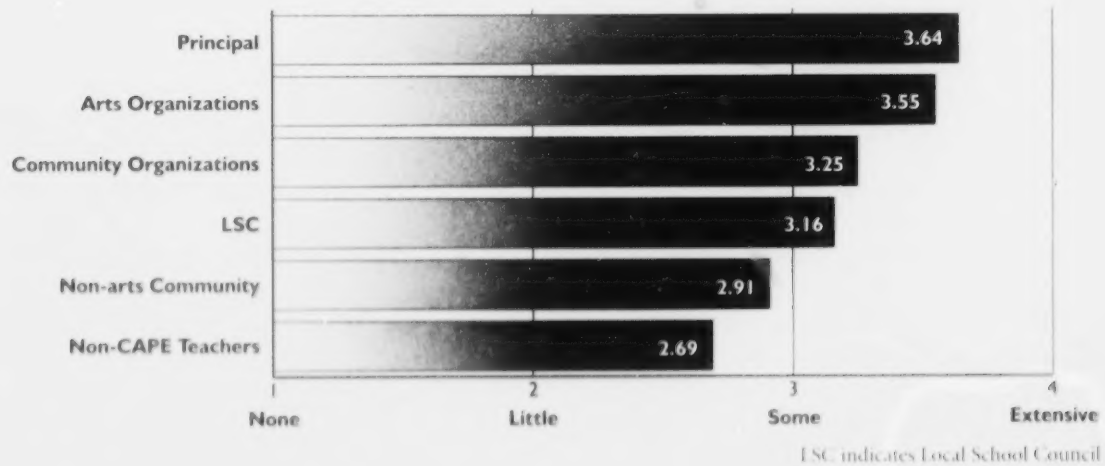
As discussed below, when 1998 data are included, the differences favoring CAPE in several important comparisons become significant for both the ITBS test and for the Illinois state IGAP test.

Support from School and Community-Based Groups

NCREL's main test of the degree to which CAPE was supported by school and community groups was a survey of artists and teachers conducted in 1997-98. Teachers and artists were asked to rate on a four-point scale how supportive of CAPE various institutions seemed to be.

As seen in Figure 3, support for CAPE varied considerably depending on who is under consideration. School principals were considered highly supportive of CAPE. It is difficult to launch any initiative, much less one that aims at whole school change, if the principal is not supportive. The arts organizations are also highly supportive. This may be expected because CAPE brought work opportunities to the arts community, but these organizations would not remain supportive in the absence of a program

Figure 3. Teachers' and Artists' Ratings of School and Community-Based Support for CAPE (N=125)



that they felt was meaningful and well-run. CAPE seems to have garnered the blessings of community organizations. Local school site councils rank as supportive, though less so than the organizations just listed—perhaps because the councils have purview over many programs and constantly juggle competing demands of running a school. The non-arts community is seen as somewhat supportive of CAPE, with non-CAPE teachers ranking lowest among this group. This bears witness to the fact that CAPE did not take hold among all teachers in all schools. Some schools had high percentages of participating teachers, and some had many fewer. The IP evaluation reported below addresses this issue.

NCREL's Conclusions

NCREL reports made important observations over the five years of work and offered several recommendations in their final report. Interim observations included:

- 1) Positive changes in school climate resulted because of CAPE, based on school community surveys. Climate includes qualities such as principal leadership, focus on instruction, positive collegiality, and widespread participation in important decisions.

- 2) Significant progress was seen in getting the support of school principals for CAPE.
- 3) CAPE succeeded in getting teachers and artists to collaborate, with more success in co-planning than in truly co-teaching.
- 4) Teachers believe that an arts integrated curriculum has learning, attitudinal, and social benefits for children.

NCREL's final recommendations to CAPE included the following:

- 1) Commit to arts integration as the mission of the program.
- 2) Establish criteria for assessing the quality of arts integrated units.
- 3) Establish a standards-based student assessment system. Determine what is to be learned and how what is learned should be measured and reported.
- 4) Find ways that teachers and artists can have more time to plan and work together.
- 5) Provide added resources to teachers.
- 6) Maintain and enhance CAPE's position in school communities and their reform agendas.

III. THE IMAGINATION PROJECT'S 1998-99 EVALUATION OF CAPE

During the summer of 1998, members of the Imagination Project team, CAPE Director Arnold Aprill, CAPE staff and consultants, and the CAPE Board engaged in discussions and correspondence regarding high priority targets for another year of program assessment. The following areas became the 1998-99 priorities:

Student Outcomes

- 1) **Student Achievement.** What can a finer examination of test scores in CAPE and non-CAPE schools tell us about the possible impact of CAPE on student achievement? As part of this query, what did the newly available 1998 and 1999 test scores add to what NCREL had reported?
- 2) **Workplace and life skills.** We asked teachers to report on students' development of certain skills and behaviors thought to be necessary for successful performance in the 21st Century work force.

Curriculum

- 3) **Nature of best practices.** What do some of the best practices spawned by CAPE look like, and what makes them tick? Here we would turn our lenses to examples of integrated curricula through interviews, classroom observations, and review of lesson plans to find examples worth bringing to light. Nominated teachers and artists helped us with this question.

Conditions for Growth

- 4) **What helps an arts-integrated curriculum grow within a school?** What sort of contagion-by-enthusiasm was happening? How do artist-teacher relationships develop over time and under what conditions? What incentives work, and which do not? Teachers, artists, and large samples of school

principals and CAPE coordinators were our sources of insight on this question.

Partnerships

- 5) **What school, partnership, community, or policy contexts tend to support or impede achieving the goals of CAPE?** Here we were especially interested in school principals and partnership coordinators and their ability to encourage CAPE programs.

We now turn to brief presentations of our analyses and results in each of the above areas.

Student Achievement

For the 1998-99 evaluation, we performed a total of 52 test score analyses of CAPE and comparison schools.

CAPE schools were compared to other Chicago Public schools in our analyses in a variety of ways. Some used all Chicago schools for comparison, and some used selected comparison schools. Some comparisons enlisted all children, and others focused on high poverty schools. Other relevant background information included the following:

- 1) We did comparisons at every tested grade level: 3, 6, 8, 9, 10, and 11.
- 2) Half of the comparisons involved all CAPE schools versus all Chicago Public Schools at these grade levels.
- 3) Another half of the comparisons involved only high poverty schools (schools in which pupil free lunch qualification exceeds 75 percent). This had the effect of reducing school samples by about one-fourth.
- 4) We also compared CAPE schools to a set of matched schools identified by NCREL. We did this for all CAPE and matched schools and also for the high poverty schools within this group.
- 5) At grades 3 and 6, both the Iowa Test of Basic Skills (ITBS) and the Illinois Goals Assessment Program (IGAP) are given. At grade 8, only the

IGAP; at grade 9, the Test of Achievement and Proficiency (TAP) is given.

- 6) At grade 10, the IGAP is given; and at grade 11, the TAP.
- 7) Each test typically reports percentages of students above norm (AB), and an average grade equivalent score (GE) or a raw score (RAW) that corresponds to the number of questions answered correctly.
- 8) The final result is 52 separate comparisons, each showing a grade level, specific test, poverty level high or low, and two sets of comparative scores. The latter date from 1992 to 1998 (in the case of ITBS) or from 1993 to 1997 (in the case of IGAP, which began in 1993 and for which we did not have 1998 scores).

The pages immediately following show three sample test score comparisons that are important to understanding how CAPE seems to impact student achievement in reading and mathematics. We note that in none of our 52 comparisons did non-CAPE schools out-perform CAPE schools. Thus, what is needed to show that CAPE is effective in raising student achievement, is evidence that the already existing gaps favoring CAPE schools increased over time. For making such judgements, in our more complete analyses in the full evaluation report, we identify three critical conditions: (1) Cases where the differences between CAPE and non-CAPE schools became more significant over time; (2) CASES where the CAPE advantage was larger in the implementation years than in the planning years, and (3) cases where CAPE schools have experienced performance growth since the planning years.

A global assessment of CAPE student achievement effects. A very strong case can be made for CAPE program effects in reading and math at the 6th grade level, and a moderate case can be made for CAPE program effects in reading and math at the 3rd grade level. The middle and high school years consistently show test score improvements since the planning years,

and the high school grades tend to show larger advantages for CAPE schools in the implementation years (post-1995) than in the planning years (1993 and 1994).

The small number of CAPE high schools prevents some dramatic gains from showing up as statistically significant, although gains such as those described in the example shown below seem meaningful. These differences are not as large or significant as those at the elementary level.

Overall, we found 25 reading test comparisons out of 40 in grades K-8 where CAPE schools increased their lead over comparison schools and/or increased the significance of positive performance differences. For grades 9-11 in reading, the corresponding figure is 7 out of 12 tests. The corresponding figures for mathematics were 16 out of 40 tests in K-8 and 8 out of 12 tests in 9-11.

We turn now to examples where CAPE impacts on achievement seem most substantial.

Our first example is shown in Figure 4. This graph shows the percentage of 6th grade children in CAPE and all Chicago Public Schools performing at or above grade level in mathematics seven different years. Prior to CAPE, CPS schools averaged about 28

Figure 4. CAPE vs. All Chicago Elementary Schools, Grade 6 ITBS Math, Percent above grade level, 1992-1998

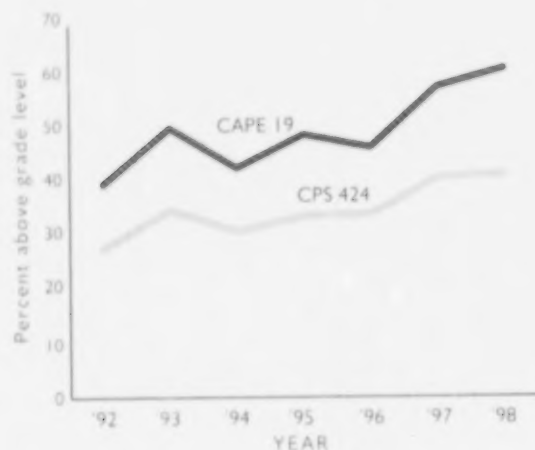
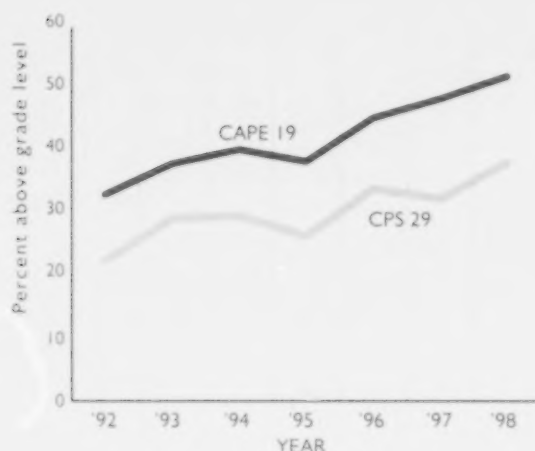


Figure 5. CAPE vs. Matched Elementary Schools, Grade 6 ITBS Reading, Percent above grade level, 1992–1998



percent at or above grade level: CAPE schools averaged about 40 percent. By 1998, more than 60 percent of CAPE sixth graders were performing at grade level on the ITBS, while the remainder of the CPS schools averaged just over 40 percent. This gain is sizeable and significant.

Our second example shown in Figure 5 displays similar figures for sixth grade reading. Here the comparison is to 29 selected comparison schools matched on a variety of things such as neighborhood, family income, and academic performance. The CAPE differential was as low as about 8 percentage points in favor of the CAPE schools in 1993. (This can be seen in Figure 5 as the difference between about 30 percent of non-Cape students at or above grade level in 1993 versus about 38 percent of CAPE students at or above grade level in the same year.) The difference favoring CAPE schools grows to about 14 percentage points by 1998. Note that all schools generally increased their performance on the ITBS sixth grade reading test over these years.

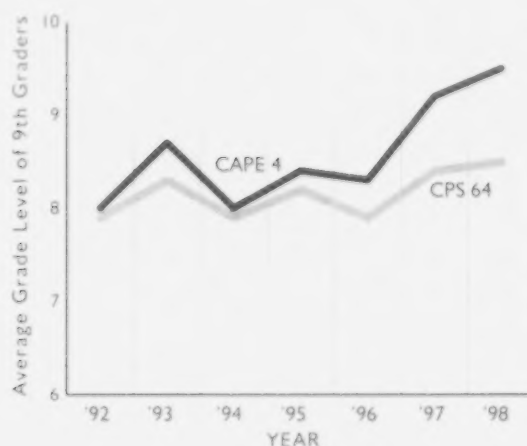
Our final example is from the ninth grade TAP reading test, which reports average grade levels of 9th graders. Grade levels are routinely reported in years and months; for example an 8.5 grade level would

mean the typical performance level expected of 8th graders in their fifth month of school, or in late January of the 8th grade. The comparison in Figure 6 is between CAPE school 9th graders and 9th graders in all Chicago Public Schools. In Figure 6, it can be seen that while both groups of schools started out at low 8th grade levels and coincided at exactly the 8th grade level in about 1994–95, by 1998 CAPE high school ninth graders were averaging 9th grade fifth month performance in reading, while comparison schools were averaging a full grade level lower, 8th grade fifth month.

The Test of Achievement and Proficiency, along with most districtwide and statewide standardized tests, is given in the spring—in the case of TAP, at about the 7th or 8th month of the 9th grade. This implies that neither the CAPE schools nor the comparison schools showed average performance at grade level; but by 1998 the CAPE schools were much closer to grade level than the comparison schools and furthermore their students had shown considerably more improvement over the latest three years than other CPS ninth graders.

Summing up achievement effects based on test scores. There appear to be strong and significant

Figure 6. CAPE vs. All Chicago High Schools, Grade 9 TAP Reading, average grade level, 1992–1998



achievement effects of CAPE at the elementary level and especially by sixth grade. In high school, there are positive gains for CAPE versus comparison schools that, while notable in size, they do not achieve statistical significance because of the small number of CAPE high schools. We did not discern achievement effects at the 8th grade level.

Work Force and Life Skills. As another measure of CAPE impact on students, we asked teachers, artists, coordinators, and principals to appraise the degree to which integrated arts activities under CAPE

contributed to a variety of skills frequently cited as important for adults in their work and personal lives.⁴ We also asked classroom observers—watching both arts integrated lessons and non arts-integrated lessons—to make a note of the degree to which these skills seemed to be promoted in the lessons they watched. We used four-point scales—none, low,

⁴ Secretary's Commission on Achieving Necessary Skills (SCANS Report). Washington D.C., United States Government Printing Office, June 1991.

Figure 7 Reported student growth in various skills.

	Teachers	Artists	Non-integrated Lesson Observation	Integrated Lesson Observation
responsibility	very high	very high	medium	medium to high
self-management	med to high	med to high	medium	medium
study plan use of resources	high	high	medium	medium to high
team participation	high	very high	med to high	high
work with diverse individuals	high	med to high	high	high
reading	medium		med or N/A	high or N/A
writing	high		med or N/A	high or N/A
math	medium		med or N/A	med or N/A
speaking	med to high		medium	med to high
creative thinking	high		medium	med to high
decision making	high		med or N/A	med to high or N/A
seeing things in mind's eye	high		medium	med to high or N/A
	Teachers	Principals		
motivation to learn	high	high		
behavioral change for LEP stds	med to high	med		
long term effects	high	med to high		
change in teacher-student relationship	med to high	med to high		
change in student to student relationships	med to high	medium		
classroom discipline	med	med to high		

medium, and high—in our surveys and observations. This is an admittedly rough test of these outcomes for children, but we seized the opportunity while interviewing and observing anyway. Figure 7 shows how our respondents saw developments in these areas:

Arts integrated lessons contribute more to skills. Two patterns seem to stand out in these responses shown in Figure 7. One is that various participants in the process report beliefs that CAPE arts-integrated lessons are contributing to important skills—from speaking, to motivation, to decision-making—beyond what shows up on report cards or in standardized test scores. The second pattern is that the beliefs about non-integrated classes differ systematically from beliefs about arts-integrated classes. In nine out of twelve areas of skill development, participants report more direction and progress during CAPE lessons than during non-integrated lessons.

We also found evidence of long term effects. For example, one participating teacher reported to us, "I had a dancer who worked with us in 2nd grade two years ago, and she actually ended up working with the fourth grade this year and [she found] that they were so much better able to move and to be creative and to think symbolically...They were much further along in the process than the other fourth grade class who hadn't had her as a dancer before."

Our full report will have more to say about student outcomes; testimony that students in CAPE schools seem to see more around them, bring creativity to problem solving, and improve their focus and attitudes in the classroom. We also report the full array of test score comparisons.

The Arts-Integrated Curriculum. A significant part of our work plan in 1998-99 as observers and inquirers about CAPE in its sixth year of operation was to explore the art of the possible. What is the nature of the arts-integrated curriculum when it appears to succeed? How does high quality arts-integrated instruction look and feel in the classroom? What qualities in teachers and artists help the process? How do high quality artist-teacher relationships

develop? These questions are, of course, complex, but we summarize some of the salient findings.

We investigated the nature of high quality integrated arts curriculum by choosing a select sample for this phase of the work. We initially chose 10 teacher-artist pairs known for having worked successfully together over time. We also observed their classes—both integrated classes with the teacher and artist typically present, and non-integrated lessons with only the teacher present. We also interviewed most partnership school principals and most partnership coordinators for their insights about effective arts integrated curriculum.

What kinds of arts integration? We gained insights into a variety of approaches to and topics addressed through arts integration. In one case, high school students learned about the history of textiles and dyes from an artist and with the guidance of their chemistry teacher linked historical knowledge to modern principles of chemistry essential for the manufacture and coloring of contemporary fabrics. This was not a simple matter of color, but an exploration about chemistry related to the properties and problems of fabric colorization—issues now commercially addressed through complex chemical processes. In another example, we saw fifth graders producing public access video related to historical inventions and drawing parallels to the tasks and challenges of video production to the nature of scientific inquiry methods. Dance and principles of space and motion were integrated in another teaching unit, dance and the principles of written narrative in another. And in another classroom we saw third and fourth grade children working on a musical composition tied to the history of Chicago. Its lesson plan, along with others collected, exhibited explicit ties to both art and academic standards established by the Chicago Public Schools and the state of Illinois.

How does effective integration work? Our respondents generally described effective arts integration as stemming from the goals and standards of the academic curriculum, with the arts playing a partner

role in the teaching and learning. Interviews and observations of teachers, artists, principals, and coordinators elicited the following criteria for effective integration:

- 1) Kids should see connections and walk away with bigger ideas.

This teacher artist pair seems to intrinsically understand how the artist can deepen the students' development in ways that academic projects or art projects alone cannot do. They plan together, with the artist being given the academic content, then turned loose to create dance experiences which complement that learning. The teacher and artist together brainstorm the projects to maximize students' application of both academic and artistic learning... Anyone committed to teaching for understanding, teaching the whole child, or developing sentient and sensitive human beings would admire [this endeavor]. The approach here would be the envy of a highly artistic prep school... The teacher and artist had so completely taken the principles of movement from the academic lesson as the basis for this partnership that the students glided easily from dance to physics explanations.

(Project observer write-up, spring 1999.)

- 2) The students take their work seriously.
- 3) The expressions and activities in the arts genuinely speak to important areas of the academic curriculum. This also means that the content is seen through more than one form, e.g. beyond the traditional written and spoken word.
- 4) The content lesson and the artistic lesson are of equal importance.

In one CAPE high school, a French teacher teams up with a member of a local theater company. A regular activity in the French class becomes the assignment of situations to small groups of students for improvisational theater presentations to the

class. The partnership works on both French language skills—vocabulary, sentence construction, diction, listening comprehension—as well as theater skills—presenting characters and interactive situations before the class while speaking French. The power of this exercise is clear to anyone who witnesses it. If one is not a French speaker, one still understands much of what is going on in a given improvisation because of the gestures, poses, body language, facial expressions, movements, and vocal tones of the actors. This partnership has devised a rich way to show that communication comprises way more than the spoken word. It also puts students into natural speaking and listening situations. The final exam in French II is largely a single improvisation assignment and presentation.

- 5) The experience has a planned assessment with rubrics or scoring guides.
- 6) The lesson-plan should grow from state curriculum standards in both content areas and the arts.

When we examined sample lesson plans obtained from teachers or artists we interviewed, all contained at least five ingredients: they planned for an artistic product, explained the academic goals and connection of the plan to state academic goals, outlined the art objectives, connected their objectives to state arts goals, and detailed plans for assessment of children's learning. Some of the partnerships had developed detailed planning guides for proposed projects so that the desired ingredients would be represented.

What does it take to create high quality arts-integrated instruction? In addition to hearing about a sizeable number of promising-sounding lessons from our respondents, we also asked them what it takes to succeed. The responses showed much overlap with those to questions concerning how teachers and artists succeed with arts-integrated instruction. Responses included the following:

- Supportive principals
- Highly skilled artists

- Adventuresome, risk-taking teachers
- Well defined learning objectives
- Matching objectives to assessment plans
- A good schedule to make school visits convenient for artists
- Teachers should choose art forms they like
- Sharing in faculty meetings
- A good steering committee

A coordinator saw things this way: "...the first thing you notice in an arts integrated class is that everybody's working. Everybody's on task. Everybody is thinking and doing things and nobody is sleeping or day dreaming, and that's a really significant difference in classes. You can just tell in class—there's an electricity in the classroom, there's energy in classes using arts integrated things."

As with individual and team traits thought important for success, many of these characteristics and guidelines emerged over time for participants in CAPE.

CAPE's developmental influence on school conditions for success. We must note that our respondents informing the discussion immediately above on the one hand discussed conditions for success as they saw circumstances six years into their partnerships' involvement with CAPE. On the other hand, and quite important, our interviews along with NCREL's early evaluation were equally clear on the fact that these were not the conditions generally present as CAPE began planning and implementing 4 to 6 years earlier. CAPE partnerships and school communities learned much through their experiences over the years—how to plan, the importance of working effectively with school principals, how to structure teacher and artist learning experiences, and how to organize lessons.

One way to articulate this sort of effect would be to say that CAPE schools would now have a long leg up on launching curriculum-based instructional improvement because of what they learned through CAPE.

Which artists and teachers succeed with Arts Integrated Instruction? We hesitate to be restrictive in defining the types of teachers or artists who have the most promise for arts-integrated instruction. Nevertheless, we heard much about the qualities in each that can prove helpful.

We should report at the outset that teachers were commonly seen across our interviews as professionals compelled to live within a fairly tight set of boundaries. In contrast, artists were seen by teachers as people who live with relatively few boundaries. This to us is what makes the partnerships so interesting as well as challenging. It describes a part of the developmental agenda of individual teachers and artists who make commitments to work together.

Artists. Our respondents identified a total of 16 characteristics of artists that would tend to boost their success in integrated instruction. Some were fairly obvious—communication skills, classroom experience, ability to lesson plan, and love for art.

Some were less expected, though fully plausible: trust in the teacher, knowledge of the academic subject, and understanding developmental growth of children, for example.

Teachers. We had the same sort of groupings in recommended qualities for teachers as arts integrators. Predictable responses included openness to new ideas, interest and background in art and willingness to take risks. Respondents also recommended teacher willingness to seek training in art, willingness to relinquish some control of the classroom, and willingness to seek depth in their subjects.

There are two clusters of characteristics that seem to deserve pointed focus in the characteristics cited by our interview respondents as important for teachers and artists in successful arts integrated instruction. On the teacher's side, these are willingness to let go of some control, openness to new ideas, flexibility, and risk taking. Bringing art into the academic curriculum requires change—often fundamental change in the ways teachers are used to teaching. The openness and

adventuresome-ness identified in this list speak to the willingness to change on the part of the teacher.

On the artists' side, we would identify organizational skills, punctuality, good listening skills, as well as interest in and understanding of how children learn. Learning theory is not a standard part of an artist's formal education, and, as some pointed out to us, artists can tend to work on their own somewhat unpredictable schedules. But to work in a school, the artist needs a degree of organization, willingness to adhere to a schedule, willingness to try new things, and interest in the academic subject to be integrated.

Developmental note. Once again, we must point out that these perspectives offered by teachers, artists, and others interviewed benefited from six years of hindsight. Skilled arts-integrating teachers and artists are not born; they develop skills over time. Most of our respondents described a learning process that pushed toward these individual traits and behaviors over the course of involvement in CAPE.

Teacher-Artist Pairs—When do they succeed?

An auspicious start for an artist-teacher pair would be high levels of the characteristics just described for each respectively. Probably more importantly and realistically, teacher-artist pairs with long histories together described a very developmental process. In the early going, the artists put energy into learning what the teachers' objectives are for the unit. The teachers typically begin as neophytes in the symbol systems of the artists. The two need to be students of each other as they plan and begin. In successful partnerships, there is a constant process of teacher learning from artist and artist learning from teacher—and, of course, both learning from the students. The teacher and artist remain in communication about what they see working or not working and modify plans for the next session or the next unit they will do together. The teacher must learn to live with some unpredictability brought by the artist; the artist must learn to accept the necessary structure brought by the teacher. Couple these traits with love of the subject, love of art, and love of children, and a successful teacher-artist pair is born.

One coordinator reflected, "The artist said, 'Do you think the artists need to learn the teacher talk? And, What's the vocabulary we need to know?' I said, no, don't go and try to learn the language because you'll bring your own language to our classroom and that makes for a rich experience...You need each other's skills. You can complement those skills."

How Does CAPE Grow in a School?

When we look across CAPE schools, we see some instances where every teacher works with at least one artist to plan and implement at least one unit a year. This conception of whole school participation is based on everyone getting involved at some level. We saw an extreme example of this in one elementary school that manages to keep four artists in the visual arts, theater, music, and dance respectively in-house for the school year, with pairs of artists working with half of the teachers for one semester and the other half during the second semester. Not only were all teachers involved, but involved in multiple ways. Some teachers and coordinators devoted extraordinary personal time toward this sort of objective.

At the same time, there are CAPE schools where only a fraction of teachers actively pursue arts-integrated teaching.

Some schools have blossomed; others have not. This naturally gives rise to questions concerning how CAPE partnerships grow in a school from their first pilot trial days.

When we asked teachers and coordinators about the growth process, some thought of the ultimate goal of arts integration as something unreachable. This was where whole school implementation was conceived as complete saturation of the curriculum—with all subjects being taught through the integration of the arts all of the time. This was seen as a wishful, far-off ideal. Some felt there would never be enough money for the needed artists, and some believed there were just too many areas of the curriculum that had not been proven to be totally teachable through the arts. Mathematics was the commonly cited example.

Finally, some said that requisite planning time would never be found. Besides, working out scope and sequence in a single subject throughout an elementary school trying to integrate CAPE is a big enough job, according to most respondents.

Nevertheless, CAPE has grown within schools over time, and our respondents had considerable thoughts about why. CAPE programs have grown where school principals have thought highly of the program and have assisted with the nurturing process. Principals are in charge of school funds, allocate space, and influence agendas for professional development and faculty meetings.

One principal said, "CAPE has been a positive force in the school. My teachers through this five-year program have demanded to be a part of this, which I consider to be a real plus. It was targeted in the beginning for a few grades. People saw it as a big benefit and as a big positive."

CAPE benefits when opportunities for collaboration and growth are made available, often under the purview of a school principal who can direct the professional development agenda. And CAPE has grown by positive word of mouth within schools.

CAPE typically started with handfuls of teachers in a small consortium of schools who were willing to work together and who had access to a grant from CAPE to be able to hire participating artists. One moving force for growth was described by a teacher as CAPE's snowball or "fashion" effect. A program can grow with the robust force of a snowball, expanding its diameter by gathering devotees as it rolls. The "fashion" effect is another name for what we used to call the "contagion" effect of a pilot program. If the pioneer participants are succeeding and gaining praise and attention within a school, not to mention the good graces of the principal, additional explorer teachers and finally settler teachers will sign on. One element of this effect was that teachers reported higher and higher emphasis on the value of the arts as

time went by. Teachers also reported changing their teaching in the direction of CAPE principles on their own. And artists systematically reported general revitalization by participation in CAPE. In short, CAPE has grown by word of mouth because many teachers and artists truly like what they are doing, and see results for children.

CAPE also grows effectively in schools that have a realistic sense of the planning time needed to start up such a program and the ongoing planning and development required to make it stronger and deeper over time. Knowing that the development cycle will take years is important.

We seemed to see the most growth and institutionalization where partnerships created planning formats that made sure the teaching and learning would attend to existing standards, where the teacher and artist could carefully think through their goals in advance, and where at least some attention was given to assessment.

CAPE in the wider school community

We asked all of our respondents—teachers, artists, coordinators, and principals—about relationships between CAPE and the wider community. This exploration sought ways in which CAPE may have had effects on the community as well as ways that the community may have helped CAPE to achieve its mission along the way.

Community support for CAPE at this point is fairly localized to the participating schools. Many have written small grants to extend or broaden arts integration. Several schools received substantial Annenberg grants (a foundation pursuing school improvement through multiple projects across the United States). Another school received an Oppenheimer Family Foundation grant to assist with a mosaic project. Parent support for CAPE projects is uneven. In some schools it is characterized as sparse. In others, parents turn out in large numbers for CAPE-related and other school activities, and in one partnership a group of

parents simply took the CAPE project on from the beginning and helped with planning, grant writing, and scheduling. An occasional parent with specific skills (architecture; video production; philosophy of art) has become part of the integrated teaching process because of compatible skills.

CAPE projects have some reported effects on other programs within their schools. As mentioned above, teachers have expanded their integrating repertoires after getting involved in CAPE units. In one school, chess became part of a teaching unit, and this brought a chess club to life. The drama activities in integrated teaching units have had effects on drama clubs and wider school theater activities. In a related example, a mural painting project had the effect of upgrading set design and painting in a school's drama department. Some schools report that the general quality of their assemblies has gone up with CAPE, because children are now comfortable with performing, public speaking, and taking risks.

Wider impacts of CAPE can be seen in what the artists bring back to the community and to their arts associations. This word of mouth has brought additional artists to CAPE, allowing the program to grow, and has spread the word in the community that something interesting and worthwhile is going on in the program.

Finally, we suspect that as more is written about CAPE, and more people around the nation become familiar with the program and its effects, CAPE will further expand its influence and presence beyond Chicago, Illinois.⁷

⁷ CAPE has been replicated in nine cities across the United States, Canada, and England.

**Artistic Talent Development
for Urban Youth:
The Promise and the Challenge**

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INTRODUCTION

While the nation calls for recognition of outstanding talent and high achievement among its youth, little information about the development of artistic talent, especially among economically disadvantaged students from diverse cultural backgrounds, actually exists. Most existing models of talent development are based on studies of people who were born into a family that both valued their talents and had the means to support its development. With retrospective studies and memoirs of successful artists, we already know the outcome and can look back at the factors—parents, teachers, personal characteristics, lucky breaks—that made their success possible.

But what about young people with interests, aspirations, and talents in the arts who do not have the support or financial resources to develop their talents? What about students who do not aspire to a career in the arts but are committed to serious study of them? What effect does arts instruction have on the development of students' identity, work habits, attitudes toward school, future opportunities, and the choices they make? And what can arts education institutions and programs do to help students succeed despite the obstacles they face?

This report describes the findings of a study, funded by the *Champions of Change* program of the GE Fund, that followed current and former students of a performing arts program in the New York City Public Schools. Young Talent, a program developed and implemented by ArtsConnection, a not-for-profit arts in education organization, has been in existence for 20 years, providing the researchers with a unique opportunity to examine the conditions, experiences, and realities of talent development for a diverse spectrum of urban students over an extended period of time.

The study, conducted by researchers from the National Research Center on the Gifted and Talented, followed 23 children and young adults, aged 10-26, in three different stages of talent development in music

and dance: elementary school; intermediate school; and high school, college, professional or semi-professional careers. A high percentage of the students in the program come from economically disadvantaged circumstances and attend or attended schools with no arts specialists. Over half of them had, at one time, been labeled as at-risk for school failure due to poor grades, absences, behavioral or family issues. The effect of sustained study in an art form on these talented young people provides powerful evidence for the crucial role of arts education in helping students achieve their educational and personal potential.

The study made use of extended interviews with the students, their parents and families, arts instructors, and current and former academic teachers; observations in both school and professional settings; and the collection of academic data. Researchers found that common elements emerged across ages and stages of development. While the basic factors of parental support, instructional opportunities, and personal commitment corroborate the essential findings of previous studies of talented teenagers in a variety of fields by Bloom (1985) and Csikszentmihalyi, Rathunde, & Whalen (1995), this study highlights important differences in the nature and impact of those factors as it relates to diverse, economically disadvantaged, urban populations.

The researchers were interested in uncovering and clarifying relationships between factors in three areas: 1) obstacles faced by economically disadvantaged, urban students in pursuit of talent development in the arts; 2) external support and internal characteristics that helped students overcome those obstacles; and 3) the impact of serious arts involvement over an extended period of time on students' lives and capacities. To investigate these questions, the study focused on children and young adults at significant stages of committed learning in the arts.

We hope that what we have discovered about these young artists can deepen our understanding of and appreciation for the challenges they face and the potential for artistic involvement to affect their lives.

From a practical perspective, we feel that there is a great deal that schools, cultural institutions, community organizations, and parents can learn from these examples that can help them design programs to help young people who have talent and drive but few opportunities to pursue their dreams.

Intervention

The students in the study are current or former participants in the Young Talent Program, provided by ArtsConnection in their elementary schools. The program, begun in 1979, currently serves approximately 400 students in grades three through six in eight New York City public elementary schools by providing instruction in dance, music, or theater. All of the cases in the study were drawn from the dance or music components of the program. The Young Talent Program offers introductory experiences for all students and more rigorous instruction for students who have been identified as potentially talented.

The basic talent development program consists of weekly classes for 25 weeks between October and May for students in grades four, five, and six, taught by a team of two professional teaching artists. Student ensembles perform for their schools and communities, and an alumni program is offered for students graduating the elementary school program at ArtsConnection's Center in midtown Manhattan. Advanced students also attend five to ten classes per year at professional studios and cultural institutions around the city. The curriculum is designed to be challenging and broad in scope, to give students opportunities to learn a variety of styles and techniques, and to develop their skills to prepare them for further study in the art form.

The talent identification process, developed through a Jacob K. Javits Gifted and Talented grant from the United States Department of Education (Talent Beyond Words, US Department of Education grant # R206A00148) was designed to be equitable to students who have no previous arts instruction and come from diverse cultural backgrounds. The central purpose of the program is not to develop professional

artists. Rather, the program strives to raise awareness and appreciation of the artistic abilities of all students and to recognize and develop the outstanding talents of many students who would not be identified as gifted and talented through academic tests or other traditional means.

In addition to artistic instruction, support services offered through the Young Talent Program include staff development workshops for classroom teachers and small group, after-school assistance to students who are struggling academically. A site coordinator maintains contact with teachers and supervises the school program, maintains contact with parents and provides information about other instructional opportunities.

Sample

The students were selected for the study from a pool of 400 current students, and more than 1500 program graduates. A total of 32 students deemed potentially successful in their talent area were originally recommended. Out of these, 23 were selected for the study based on sampling procedures that differed for each cohort according to the special circumstances and status criteria existing at each level. Overall, the sample consisted of 12 females and 11 males, and it involved 16 African Americans, 5 Latinos, and 2 Caucasians. Income information was not available for all families. As an indicator, approximately 19 of the 23 students were or had been eligible for free lunch in school.

To obtain a developmental understanding of how talent is nurtured and evolves, three cohorts of students were chosen, identified by age and grade level. The elementary (11 students, age 10-12, grade 4-6), intermediate (6 students age 13-16, grade 7-9) and high school/adult (6 students, age 17-26, sophomore through post-scholastic) cohorts were distinguished by the type and level of arts instruction available to them. Elementary school students were provided with weekly Young Talent Program classes at their school and occasional classes in professional studios during and after the school day. Intermediate school students had fewer instructional opportunities at school and had to

travel to ArtsConnection on their own on Saturdays to continue lessons. At high school level and beyond, arts instruction was completely voluntary and required a personal commitment of time and money.

While the cohorts were defined by age, individuals within each cohort represented three major stages of talent development in a progression from novice to emerger to expert. These phases, recognized both by cognitive psychologists (Bruer, 1993; Newell & Simon, 1972) and by developmental psychologists (Bloom, 1985; Csikzentmihalyi & Robinson, 1986; Feldman, 1986; Gardner, 1993) are defined by skills, motivation, and readiness for more advanced and challenging instruction and opportunities. In the arts, distinctions between stages are particularly fluid and cannot be generalized to all students of a particular age or experience level. Some fifth and sixth grade students in the study, for example, attended classes at professional dance studios and were invited to perform with adult companies. These students were more advanced in their skills and motivation than some of the intermediate or senior high school students. Thus, while most students in each cohort fit the developmental profile of elementary-novice, intermediate-emerger, or high school/adult-expert, the students' age and stage do not necessarily correspond.

Methodology

In this longitudinal multiple-case study approach, a variety of data were collected over the course of the two-year study. These multiple perspectives allowed for triangulation of data that could confirm or reject hypotheses (Moon, 1991). Available data varied for each cohort, but all cases included in-depth structured and semi-structured interviews with the students and their families, academic teachers, arts instructors, and members of the ArtsConnection staff who regularly interacted with the students and their families.

A second method of data collection was field observations. The project researchers and outside experts observed the students on repeated occasions during talent identification auditions, talent develop-

ment lessons, and performances. A third method included systematic collection of standardized achievement test scores and arts progress evaluations. In addition to these ratings, many of the students completed self-concept and self-efficacy scales. A fourth method included examination of records and awards and ratings used in talent development and scholarship auditions. Student focus groups and questionnaires were other sources of data.

Profiles of Talent Development

The following profiles introduce a student from each age and grade-level cohort, and provide a glimpse into the different stages of talent development. The young people on this journey, whether starting in the arts or maintaining their study as adults, face numerous obstacles. They find support and assistance from family, friends, arts mentors and classroom teachers, and they are deeply affected by their artistic involvement. The stories are representative of the rich data upon which the cross-case analyses were based. At the start of the study, Carmela was 11, in fifth grade and a participant in the Young Talent Program. Gloria was 14, an eighth grade program graduate, and Tony was a 22-year old professional dancer. In the two years of the study, Carmela moved to middle school and was making high school plans, Gloria moved into high school, and Tony continued his career.

Carmela

In the cramped hallway of the Martha Graham School on East 63rd Street in Manhattan, dancers of all ages squeeze past each other on the way to and from the dressing rooms. Carmela 12, sits alone on a bench doing her homework. Several times a week she leaves school in Queens at 2:30, gets to the studio at 3:00 and does her homework until 4:00, then warms up to get ready for class at 4:30. "Then I take my class. I come back, I pick up my stuff, pick out a book on the train and start reviewing all the stuff. It's really hard for me."

When Carmela arrived in the Bronx from Caracas four years ago, she was the only Venezuelan in her

school. She knew little English and had trouble communicating with the other Latino (primarily Puerto Rican) students in Spanish. She had few friends and missed her large family in Venezuela. When her father abandoned the family, her mother was forced to take a job as a live-in domestic on Long Island, leaving Carmela, her 19 year-old sister Carmen and 17 year-old brother Juan on their own during the week. They shared chores, cooking, cleaning, and laundry. Carmen and Juan helped Carmela with homework.

While adjusting to a new country and language, three new schools and the difficult living arrangements, Carmela danced. She had never taken a dance class in Venezuela, but was fascinated when she started watching dance on TV. "I watched a piece by Martha Graham on Channel 13," she remembers. It was Clytemnestra or something. It was great. I was like, 'Yeah, I want to do this!' I loved it. I said, 'Mommy, I want to be in dancing.' But we didn't know where the dance schools were at or anything." In third grade she was selected to be part of the Young Talent Program in her school, and by fifth grade she had received a scholarship to the Graham school. Carmela dreams of a career in dance but recognizes the difficulties she will face:

It's very tough because my Mom doesn't have a lot of money. I don't know how to think about that. I don't know what I would do when I get to that point. My mom, she's my role model. I just have to keep on going, try my best. Even though my mom is not home, I still have to keep on studying and going to school and being responsible to myself. We came to this country to start a new life and to accomplish our goals, and that's what we are trying to do. I am just challenging myself to do the best I can do, to reach out to the goal that I want. Say we go back to Venezuela, I want to be a very successful person so they can look up to me.

Gloria

Gloria is a large girl with an imposing presence. Her fourth grade classmates described her as tough.

Her teachers described her as a bully, with very low self-esteem and an aggressive attitude. When she started the ArtsConnection music program Gloria had already repeated third grade, was in the lowest reading group, and her teacher worried that she might need to repeat fourth grade. "I feel Gloria has the potential, but her mind seems to be on other things," the teacher said. She has a problem focusing attention and getting her work done. "There was plenty to distract her. Gloria once told a teacher that she would 'probably end up becoming a drug addict like my mother.' Because of her mother's frequent illnesses, Gloria was shuttled between her grandmother and mother and missed a significant amount of school.

In third grade, Gloria became part of the Young Talent music program. Her music teacher saw through her sometimes sullen looks and impatient behavior to her positive potential. "She could be brutal at times, but I saw an energy for leadership," he remembers. He gave her responsibilities and leadership roles within the music group, and he constantly pushed her to open up and to achieve. In fifth grade, Gloria's academic performance improved dramatically. "She went from the bottom reading group in the fourth grade to the top in grade five," her fourth grade teacher explained. "She seemed to feel better about herself. Somehow she got the message that she was special and a good person. I honestly don't think this would have happened if it weren't for the music program." She also began to have a group of friends for the first time in her life. She said, "When I first met Jasmine and Simone in second grade we hated each other. Then Simone became my best friend. When we started with ArtsConnection we just became friends, because we knew we had something in common."

As her talent developed, Gloria was placed in more demanding situations. She became part of the student performing ensemble, which performed regularly at school, in the community and at events around the city. The highlight for Gloria was a performance at President Clinton's 1992 Inauguration. "After getting a standing ovation for our performance in Washington, D.C., I

really began to think of myself as a musician," she said. We even had a press conference. That was really fun. It made us feel like we were real famous."

Gloria's grades continued to improve during intermediate school, where she was placed in the top academic classes, was consistently on the academic honor roll and was valedictorian of her intermediate school class. Gloria remembers her grandmother's edict: "You also have got to do good in school. So if you want to go to ArtsConnection, you've got to do your schoolwork, too." Gloria doesn't think she wants to pursue a career in music. She says: "I feel that if I go to school for music and be involved in ArtsConnection and [the performing group], music's going to become a bore. I don't want to have music all the time. I could do other things, you know. I don't only know how to play music." She is currently studying fashion design as well as music at a New York City arts magnet high school.

Tony

"They say it takes a village to raise a child. Well, it surely took this village to raise this child," said Tony's mother. As a single parent, she worked as a cook at a community center while raising seven children. As she thinks back on the development of her youngest son, Tony, now 24, a member of the internationally renowned Alvin Ailey American Dance Theater, she says, "Out of the hundreds, literally hundreds, of people that helped, if just one wasn't there, I think maybe Tony wouldn't be here. You know, because each role they played was very important. If you eliminate just one of them, he might not have come this far." When Tony started dance as a second grader in East Harlem neither he nor his mother had ever heard of Alvin Ailey. Tony was the only member of the family who was interested in pursuing the arts.

Tony was seven when the Young Talent Program came to his school in 1979. At that time, all classes were held at the Ailey school. "I really didn't know what was going on," Tony remembered. "I just knew it was dance, and it was movement, and I wanted to audition. I really didn't know what I was getting into; it was just a lot of

fun." His fourth grade teacher recommended removing him from the dance program because of problems in math. However, the assistant principal, recognizing Tony's talent and the opportunity he had at the Ailey school, intervened and arranged for a Columbia University student to tutor Tony two mornings a week in math. His grades improved, and he was able to continue in the dance program.

After sixth grade, ArtsConnection and the Ailey school provided a scholarship so that Tony could attend classes four days a week in the demanding and competitive environment of a professional dance studio. He traveled downtown to Ailey from his intermediate school, but his mother would not let him come home alone after dark. "After work I used to have to come downtown on the bus (from 101st Street in Harlem to 45th Street) and sit and wait in the lobby with the security man until six," she recalls. Tony credits his mother's dedication to his talent as one of the major reasons he continued to pursue dance. "I didn't have a lot of material things like other kids had, but I did have my mother. She wasn't a stage mother; she was just easy, and she knew which direction I was going in. She's followed me and supported me as opposed to leading me to where I wanted to go."

After junior high school Tony and his mother disagreed about his high school choices. She wanted him to attend a business oriented school with a strong math and computer program. Tony wanted to go the High School of Performing Arts. After satisfying herself that Performing Arts had a strong academic program as well as dance, his mother relented. As a senior, Tony earned a National Foundation of the Arts Award. In 1991, Tony entered the elite corps of the Ailey Company. "I grew up within eight months of touring," he said of his experience. "It made me stronger. It made me become the man I am." As a featured dancer for the Ailey Company, Tony has now traveled all over the world on grueling ten-week tours.

Recently he has begun to work with students in the communities and institutions that helped him develop his own talent and follow his dream. He has performed

many local lecture-demonstrations and taught workshops for the Ailey Repertory Ensemble. "It's funny, I remember as though it were yesterday, [when] I was auditioning for a workshop at the school, and now here I am giving one," he reflected. He also returns to his community to talk to young dancers about his career and his influences. "I hope I inspire the kids," he said. "I want them to get an understanding that dance, or any art they concentrate on, is a part of life. And also to have fun—not in a silly joking way, just enjoying dance, enjoying life and learning things."

These talented young artists clearly have the drive and the talent to succeed. Perhaps, if they had never been exposed to dance or music, they would have found something else on which to focus their energies. But that is far from certain. The sacrifices they and their families have made are fueled by a passion for their art. All of the students have faced serious obstacles that could have kept them from ever discovering their talents or pursuing their dreams.

SUMMARY OF KEY FINDINGS

1. Impact of Talent Development

The large majority of students in the study have achieved a high level of success in the arts, in school and in their career choices. Success in this study was defined in three dimensions: 1) the degree to which they were able to develop their talent, 2) their academic progress and aspirations, and 3) evidence of personal development that can help them in other areas of their lives. Success in talent development was measured by continued involvement in training both in and outside of school, instructor evaluations, awards, scholarships, and performing experience. Academic progress was defined as good grades in school, or completion of high school and engagement in post-secondary education. Personal development involved the application of individual talent in career or personal life and the discipline and motivation in pursuing interests and responsibilities.

Of the six students in the high school/adult cohort, all are still involved in dance or other artistic pursuits—two as professional dancers, two taking dance in college and two in high school (one theater, one fashion design). One went directly into a professional dance career after high school; one is pursuing a dance career after college; two are in college (majoring in dance therapy and psychology); and two are high school students planning to go to college. Five of the six in the intermediate cohort are making good progress in school and planning to attend college immediately after high school. All six are still involved in music. Outcomes for the elementary cohort are incomplete. Nine of the 11 students received positive evaluations from their instructors and were recommended to continue in the Young Talent Program or Alumni program (for graduates of the in-school program).

This study poignantly reveals how the development of artistic talents can positively effect the personal qualities shown in the literature to be critical to becoming psychologically healthy and productive adults. While the artistic, academic, and professional outcomes were different for each individual, many of the personal qualities and behavioral indicators that seemed to directly contribute to the students' success were common across cases and age groups. These qualities were: resilience, self-regulation, identity and the ability to experience flow. Clearly, these characteristics are correlated and interact reciprocally, each having the effect of strengthening the other.

Flow

The students participating in the program became committed to their art because they loved it. Csikszentmihalyi (1990) uses the term "flow" to describe a state of total absorption, when people are so completely involved in an activity that they lose track of time; they are unaware of fatigue, hunger, distractions, or anything but the activity itself. Ultimately the state of flow in the arts—the creative state of mind, the demanding physical exertion, and the clear goal of performing, communicating, and

sharing themselves with an audience—was a unique experience. For many, the arts became the focus of daily existence and the central driving force behind their commitment to talent development. The time they spent in arts classes, rehearsals and performances appeared to give them a satisfaction unsurpassed by other pursuits and aspects of their lives.

It's like I became addicted to dance.

Elementary student

Think, think dance. I don't think classroom at all—I think dance. I think that I am on the stage and I don't look in the mirror, I look beyond the mirror and I put the music right through my body and just let it settle and move like water. Movement is not only a way of thinking, it is a way of understanding—how, when, where.

Adult dancer

They seem to be in their own world; when they are performing they are lost in their music; they are totally focused.

Parent

Self-regulation

The students were aware of the self-regulatory behaviors they used to be successful in the arts. Students in all three cohorts commented on both the specific processes and learning strategies, as well as the general habits of practice, focus, and discipline that helped them progress in demanding instruction. Current learning theory emphasizes the importance of self-regulation for succeeding in any endeavor. Students are self-regulated when they are aware of their own learning processes and select useful strategies to complete a task (Bandura, 1986; Zimmerman, 1996). Research has shown that when students are engaged in challenging activities that accentuate their talents, they demonstrate extraordinary ability to regulate their own learning (Baum, Owen, & Oreck, 1997; Baum, Renzulli, & Hebert, 1995). Because the pursuit of the arts was so intrinsically rewarding for these students, hard work was embraced eagerly. They acknowledged that they were pushed physically and

mentally, learning their limits and testing their responses to hard work. As the students moved through the stages of talent development, they became increasingly able to apply their successful self-regulatory behaviors to other areas of their personal and academic lives. For the most part, these students achieved in school, set goals for their future, and assumed responsibility for their actions.

I think you call it mind over movement. You have to really listen to the song and while you're playing you still have to listen to make sure you're in the right key. So you use your mind to tell you the part of the song, and you use movement to keep playing it and doing what you're doing. The mind over movement has helped me listen and take notes at the same time.

Intermediate student

When someone pushes you and you find that you improve, you learn to practice. Because you know if you practice it, you get it. So they gave us that start-off push. You didn't want to. You were tired. And then the next class, you didn't need the push anymore. Then you know that "if I can do this with my body, then I must be able to do this with my mind. I may not be perfect, but I am getting better." So it does help when you see it physically.

High school student

Identity

As students reach adolescence, their identity is often contingent upon being accepted by peers. The students began to see themselves as professional artists. They developed a strong bond with similarly talented peers and formed their own support group. Together they worked toward reaching shared goals and reinforced values modeled by their arts instructors. Erikson (1963, 1980) would define this process as successful resolution of the identity crisis typical of the adolescent years. During adolescence, identity and emotional health are closely tied to the perception of cognitive strengths. In this way, students are able to visualize how they may fit into the adult world (Reilly, 1992).

It's a big part of the music knowing that you have somebody that shares something with you. I think it's mostly the music, knowing that you have people there who know what you know, and you can play the music with them and you understand them. When you talk what they call "music talk," they understand you. I don't think that anybody else would understand you and them in a conversation. It's like you're connected through your mind. It's like this telepathic thing, you know?

Intermediate student

Resilience

Resilience describes the ability that some individuals display to bounce back from adverse experiences (Beadsly, 1989; Rutter, 1987). All of the students in the study faced adversity and individual challenges. Some faced situations that could have sent them down a path of underachievement and helplessness where they might have felt they had no control over their lives. Yet in spite of these circumstances most were able to overcome some of the potential obstacles through external support and their strong desire to excel. According to Ford (1994), resilience is strengthened and nurtured when children have positive and strong relations with peers, family, and community, where they can find both emotional and physical support.

Without [the group] I'd have no real friends who love music the way I do. School is awful and nothing is right. My uncle was killed, there's no music at school, and no opportunities for me. But my Mom keeps asking me the same question over and over and over again. When are you going to play music again?

Intermediate student

It gave me another world. You have reality and then you have Saturdays when you went and danced...you were creating a story so that was another outlet. I was able to go forget for those couple of hours and just dance and have fun...that was always my natural high. No school. No thinking. Nothing.

High school student

II. Obstacles of Talent Development

Researchers examined issues that had the potential to inhibit or undermine the development of the students' artistic talents. Clearly, the same obstacles could block a child's pursuit of any talent or interest, but the arts pose some special problems that are exacerbated for families lacking available time and disposable income. The task of finding and maintaining appropriate instruction, acquiring necessary equipment and instruments, and finding time for practicing and rehearsing, stop many children from ever beginning to study the arts. Personal, family, and peer issues combine to challenge the young artist at each step of the way. One can rarely point to a single reason that a student decides, or is forced, to abandon artistic talent development.

Interestingly, in the course of the interviews, many situations that appeared to be serious obstacles were not perceived as such by the students and their families. It was clear, however, that a combination of these and other factors could and sometimes did derail the student's progress at various stages in the process.

Family Circumstances

Of the 23 students in the study, 13 lived in single-parent households. Many lived with other family members who contributed to the family income, but in all cases the mothers worked as much as they were able, and most of the students were eligible for free lunch. In the elementary cohort, 4 of the 11 families resided in the U.S. for fewer than 5 years. Parents who had professional positions in their native countries could find no comparable positions in New York and had to take whatever jobs they could. Within the first three years of arriving in New York, all of the parents of immigrant families in the study had either divorced or separated, leaving the children in the custody of their mothers. This dissolution placed each household in emotional and financial turmoil and had a direct effect on the students' ability to pursue talent development opportunities.

In Venezuela we always had our whole family there, so you would feel more comfortable, so you could do anything you want. But we got here and there was only us, us four on our own. Elementary student

Safety Concerns

The parents of elementary school students expressed serious concerns about allowing their children to participate in afterschool, evening, or weekend activities if they could not personally accompany them. While none of the schools are in the city's most crime-ridden neighborhoods, the issues of safety from older children and gangs, traffic, and the police (particularly for the boys) were foremost in parents' thinking.

I don't let my children out alone. There's too much going on. I really feel bad because when I was growing up I was able to go out and play because there wasn't going on in the neighborhood what's going on now. It's a bad neighborhood. You hear gunshots and you don't know. I have a friend who lost all three of her sons who were killed on the streets. Parent of intermediate student

Lack of affordable or appropriate instructional opportunities

ArtsConnection works in schools that tend to be deficient in arts programs and are located in communities that are underserved by cultural institutions. Even in neighborhoods where affordable and appropriate opportunities do exist, limited financial resources or lack of awareness regarding such programs often keep students from participating. In the East Harlem, South Bronx, and Brooklyn neighborhoods in which the Young Talent Program schools are located, many free or low-cost arts programs in churches, boys and girls clubs, YMCAs, and settlement houses have been cut back or reconfigured as social service programs in recent years.

Without the ArtsConnection program Simone would not have developed any of these talents. All the children in the program were blessed that this program came along. I could never afford to give her this kind of lessons. Parent of adult dancer

Peer resentment and social stigma

Negative peer pressure and social stigma for high-achieving students increased as the students progressed, apparently reaching a peak in intermediate school. In elementary school, the selection process for the advanced group led to some jealousies among certain students who were not in the advanced group. Overall, however, the Young Talent students felt supported by their elementary school friends, and their accomplishments were a source of pride for the schools. In intermediate school, many of the students felt that they had to hide their artistic interests to be accepted. By high school, those who had maintained their artistic interests felt more comfortable demonstrating their talents and pursuing them actively both in and outside of school. The stigma of participation in dance for boys began in late elementary school, when over half of the boys left the dance program. There were many reasons for this drop-off in male participation, including negative perceptions about male dancers from friends and parents and competition from sports and other interests.

You can never tell who will be supportive or who will 'catch the attitude' that, you know, she thinks she's more special and stuff like that. High school student

Who do you think you are—better than us because you do gigs? Intermediate student

It's tough being a good student in my high school. Most of my friends from before don't know why I'm taking hard academic courses. They tease me about 'acting White' and being a show-off. It makes me feel bad but I'll have the last laugh when they see me getting both a Regents diploma and a regular diploma at graduation. High school student

Personal dreams versus practical realities

During high school, the conflict between dreams and realities became a serious obstacle. Most of the high school/adult cohort had already made the decision to move towards serious study and expert status by the time they reached eighth grade, as signaled by their application to magnet arts schools. Once in high school, students faced decisions about pursuing college and had to consider the potential costs and financial sacrifices of continuing their involvement in the arts. Parents raised concerns and challenged students' commitment to further training.

My father said, 'Oh, it's the young thing to do, go to dance class and this and that, and now it's time to get serious.' I was in college and he was asking how my computer classes were going, and I said, 'What are you talking about? I'm a dancer, don't you realize that by now? Like, this is my job!' And he was like, 'So how's the psychology [class] going?'

High school student

III. Success Factors

Four major factors emerged as key to the students' continued pursuit of arts training in the face of obstacles: family support; instructional opportunities; community, peer and school support; and innate personal considerations and motivation. The interaction among these factors helped fuel the students' progress in talent development.

Family support

As in other studies examining talent development (Bloom, 1985; Csikszentmihalyi, Rathunde, & Whalen, 1993; Feldman, 1986; Olszewski, Kulieke, & Buesher, 1987), support of the family was critical for these students. Many personal and financial sacrifices had to be made, not just on the part of parents, but by siblings, grandparents, and the entire extended family. Parents made major adjustments in their schedules, and some changed jobs to enable their children to participate in the arts program.

I just knew how important this program was for her. I had to find a better way to be there for Gloria. I quit my job and took in children to watch. The money is not good but I fought the courts for welfare assistance and finally won. Now however, I'm losing my tenants. I don't know how I will continue to make ends meet.

Grandmother of intermediate student

High quality instructional opportunities

A crucial factor in the students' success was their introduction to the arts in elementary school. Their talents were recognized through a fair, systematic system of talent identification, and they had the chance to work with highly trained professionals who provided ongoing, rigorous arts instruction both in their schools and in professional environments. Without a special program such as Young Talent, funded by public and private sources outside of the New York City Board of Education, which has removed most performing arts specialists from the schools in the last 20 years, it is clear that most of these students would not have had their talents identified or nurtured. One of the most important aspects in the successful development of talent, according to Bloom (1985), is the transition from a student's first teacher to the next teacher who provides greater challenges and expertise. The professional artist instructors in the Young Talent Program were able to provide both levels of instruction, with the nurturing attitude of a beginning teacher and the advanced skills to continue challenging the developing artists.

While many of the students had shown early interest in the arts, few had the opportunity for formal instruction. Lacking instruction, neither the students nor their parents or teachers were aware of the extent of their talent and consequently, potential (Baum, Owen & Oreck, 1996). In one school in 1990, for example, of the 24 third-grade students originally identified as talented in music, 18 continued in the advanced performing ensemble through sixth grade and attended Saturday classes during seventh and eighth grade. The six highly talented musicians in the

intermediate group who now play as a semi-professional ensemble all came from the original 24 selected from four classrooms. It is startling to imagine the talent that is being missed in schools without such a talent identification process.

I think that if ArtsConnection wasn't there, I wouldn't have pursued it on my own. I really don't.

High school student

You must have a professional artist coming into the school. What they bring is their commitment to the art, their own gifts, their drive to create good art, their immersion in the art world, their commitment to excellence. That gets translated to the students and to the teachers who are observing. So an artist brings something into a school that a teacher just can't maintain for six hours a day. The artist brings the outside in, in a way that can open up worlds to students and to teachers.

Classroom teacher

Are you sure you have the right Jason? He is so shy. I know he likes music, but I never thought he was any good at it.

Mother of intermediate student

...some kids are truly very, very talented, and that talent would never come out unless they were auditioned. But when you come in and audition a whole class for a specific talent, and you have professionals who were listening, not just a teacher, then you could pick out kids that had the talent. And a lot of those kids who were picked would have been lost, never discovered, lost by the wayside.

Principal

As part of the Young Talent Program, ArtsConnection provided classes for students at cultural institutions around the city. Students were bussed to the classes and received information about weekend, after-school, and summer programs and scholarship opportunities. Students and their families were informed of and encouraged to attend auditions to continue their training outside of school. The experience of attending classes in the professional environment had a powerful impact on the students.

They became aware of opportunities outside of their own neighborhoods. They were expected to act like professionals and to learn a new code of behavior that applies to the studio. They experienced the expectations and demands of the professional. As part of the classes, students had the opportunity to see both older students and professionals at work.

The arts instructors served as professional role models whether or not the students aspired to a professional career in the arts. The instructor was seen as someone who had "made it" and was making a living through their talent and creativity. Many of the students in the study said that the rigorous demands of the teaching artists challenged and motivated them to higher levels of mastery. The sense of purpose and professionalism of the artist was apparent whether the classes were held in the school gymnasium or in a professional studio.

Over the three years of study in the Young Talent Program, elementary students built powerful relationships with their arts instructors. This kind of relationship has been found to be vital to talent development (Bloom, 1985; Csikszentmihalyi, Rathunde, & Whalen, 1993; Feldman, 1986), especially with talented youngsters at risk (Baum, Renzulli, & Hebert, 1995; Emerick, 1992; Hebert, 1993; Richert, 1992). Meaningful relationships formed with an adult who believes in the student's abilities can provide the emotional support needed to overcome feelings of insecurity and frustration. In all cases, the instructors were seen by the students as role models and served as an inspiration to them to continue on their journey in talent development.

If I wasn't in ArtsConnection I wouldn't have the chance to audition for Disney and I wouldn't have had the chance to go to meet other new people.

Intermediate student

A lot of other girls knew who he was, but I didn't. 'That's Baryshnikov!' We heard everybody whispering his name. I was standing right next to him and I turned around and just smiled and said 'hi'. He said 'Hello.' He was nice. He didn't really act uppity.

We sat right next to him and kept watching him stretch. The man was standing right next to me and I didn't know who he was. High school student

We try to do our best never to let him down because he would never let us down. Intermediate student

He really cares about us and makes us feel special. At times he's hard on us and won't let us stop until we perform up to his high expectations. We give our supreme effort to him because he gives to us, too. Intermediate student

First of all, I love to see my Black sisters and brothers talk so strongly about us. She always was talking about discipline and how if we ever wanted to be somebody or do something, we had to go in the right direction. She was always giving a positive message. High school student

Community and School Support

Despite incidents of negative peer response, most of the students in the study reported that they received mostly positive support from their classmates and teachers, particularly in elementary school. The involvement of the entire school in the Young Talent Program stimulated interest and raised appreciation for the students' artistic talents on the part of peers and classroom teachers. The positive feedback and encouragement served to validate and support the students' efforts and accomplishments.

A vital facet of the Young Talent Program was the adult supervision provided by ArtsConnection. Many of the parents said that they would not have allowed their children to participate in after-school rehearsals and special performances if there had not been a trusted adult available to supervise them and get them home safely.

For the talented youngsters in this study, the advanced music and dance classes provided an appropriate and natural support group. The students formed close relationships in a context where they

were able to be themselves and feel accepted and valued. Participation in such a group was especially important after the students left elementary school.

My friends made me feel a little bit superior because of their compliments. Intermediate student

Having Mrs. H. (ArtsConnection site coordinator) was gorgeous. With Mrs. H. there, I can trust that my son is in good hands. Parent of Intermediate student

I wouldn't say [we're like] a family. It's like we are one. We would not be as close without the group. We have family bonds. We help each other, and we learn from each other. Intermediate student

Personalological Characteristics and Motivation

The support structures described above were essential in creating the conditions which allowed the students to follow their interests and proceed with their talent development. But without the student's desire or motivation to embark upon this journey, the support systems would have no foundation. Analysis of the primary motivations for the students uncovered three major themes: 1) an early interest in music or dance; 2) a family who valued the arts; and 3) the development of an identity as a professional.

When I was a little girl I said, 'I want to be a ballerina.' I knew I didn't really want to be a ballerina, but I wanted to dance. Like a White-skinned beauty, she can be a ballerina if she wants to, but I could never be a ballerina. There was really nowhere to go. My parents don't really understand, you know, they think you will grow out of it eventually. High school student

Cultural values and family background

The majority of the students from all three cohorts came from families and cultures who appreciate the arts—especially dance and music. In many cases, family members had extensive experiences in dance and music.

Sense of professionalism through challenge

As the students progressed, they began to see themselves as professional dancers or musicians. They displayed a growing confidence in their own abilities, especially as they mastered increasingly complex pieces and performed before a variety of audiences and with professional musicians or dancers. They seemed to thrive when challenged and to set ever higher goals. Indeed, as the curriculum became more challenging they exerted more effort. Their love of performing, both for themselves and in front of an audience, further energized them to act like professional artists.

There is always singing and dancing of some kind when our family gets together. Intermediate student

I wanted to quit when I was in high school and the dance wasn't advanced as I thought it would be or could be. I was more advanced. I needed a challenge.

Adult dancer

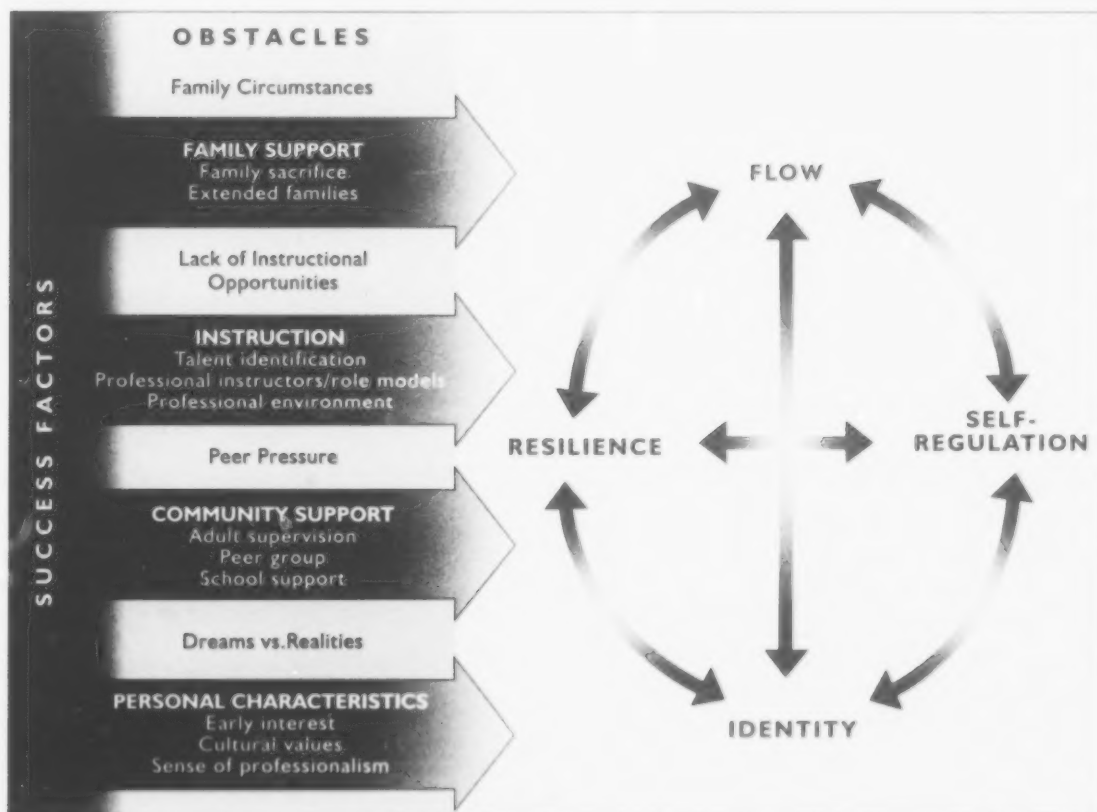
When the audience compliments me about how well we did, I feel like a musician. It makes me want to try something new—go beyond my limits.

Intermediate student

SUMMARY AND CONCLUSIONS

The findings from the three research questions revealed a set of interrelated factors and outcomes that were common across cultural groups and socioeconomic levels in the study. Figure 1 shows how the

Figure 1. Model of obstacles, success factors and outcomes



factors interact to help the students develop their personal capacities and to achieve success in their talent area.

As can be seen in the interlocking model, the success factors contributed directly to the students' abilities to overcome the obstacles. The success factors are grouped according to their primary impact on the obstacles, but a one-to-one relationship between obstacle and success factor would be overly simplified. Each obstacle was surmounted by support systems that varied in nature, depending on the age or stage of development, as well as the talents, values, and motivation of each individual.

This model uses a broadened definition of support. For example, the type and level of parental support for the students' artistic development contradicts many common stereotypes about lack of involvement on the part of economically disadvantaged, single working parents. While the inability of parents to attend meetings, school events, and arts performances could be construed as a lack of support, further investigation revealed that family support extended to brothers and sisters, grandparents, aunts and uncles, and neighbors. When parents and primary care-givers were unable to be present personally, they made often highly complex arrangements for their child to attend classes, performances, and events after school, on weekends, and in the summer. The parents' primary concern for their children's academic achievement rarely interfered with their encouragement of artistic talent development.

The arts have clearly occupied a central place in the education and identity of these students, whether or not they were working towards an artistic career. It seems clear from this study that the most crucial external success factor was the existence of a school-based program that identified and developed students' artistic talents and interests. The typical comment from students and parents was, "I never would have started (dance or music) if it hadn't been for the Young Talent Program in my school."

It is equally clear that programs in economically disadvantaged communities with few arts resources

and in schools that are underserved by arts specialists must include the sort of support components that are routinely available to more advantaged children.

Beyond direct school-based instruction, the Young Talent Program provided students and their families with information about further training opportunities and scholarships, arranged visits and auditions to magnet arts schools, made travel arrangements and provided chaperones, organized summer training, supplied equipment and instruments, and created a communication network among program families. These opportunities were cited again and again as key to the students' ability to continue in the arts and achieve success.

The arts do pose particular challenges that are different from other areas of talent development. Confirming ArtsConnection's previous research on artistic talent development, these data show that many artistically talented students are poorly served by the traditional instruction and testing methods in school (Baum, Owen & Oreck, 1997). In fact, some of the qualities that are most appreciated in the arts get students into trouble in school. In some schools, poor grades or other academic deficiencies disqualify students from arts activities. School arts programs are rarely challenging enough for talented students, and professional instruction is expensive. In contrast to sports, or outside interests such as chess, computers, debate, or science, many parents and teachers do not recognize or appreciate the importance of arts study or its relevance to success in school and future opportunities.

These students provide powerful examples of the benefits of artistic talent development. All children deserve and need arts instruction in school, and for some the arts will become a central part of their life. The stories told throughout this study remind us of what the arts can do to help overcome the challenges students and families face. For some, dance or music was their anchor amidst family turmoil. For recent immigrants and families who moved frequently, the arts were a primary means of assimilation into the culture of the school and the city. The arts group became a model

for friendships and a source of confidence for students entering new schools and new situations. Performances were a source of immense pride for students, families, and whole communities. For many, classes at studios and trips to theaters were unusual experiences outside of their immediate neighborhoods and provided a glimpse of the larger professional world of the arts and culture. Ultimately the skills and discipline students gained, the bonds they formed with peers and adults, and the rewards they received through instruction and performing fueled their talent development journey and helped most achieve success both in and outside of school.

These 23 young people and the more than 2,000 Young Talent Program graduates were fortunate enough to discover and have the chance to develop their artistic talents. Unfortunately, they come from just 10 schools out of over 1,000 schools in New York City.

REFERENCES

- Bandura, A. (1986). *Social foundations of thought and theory*. Englewood Cliffs, NJ: Prentice Hall.
- Baum, S., Owen, S., & Oreck, B. (1996). Talent beyond words: Identification of potential talent in dance and music in elementary students. *Gifted Child Quarterly*, 40, 93-101.
- Baum, S., Owen, S., & Oreck, B. (1997). Transferring individual self-regulation processes from the arts to academics. *Arts Education Policy Review*, 98, 32-39.
- Baum, S., Renzulli, J., & Hebert, T. (1995). *The prism metaphor: A new paradigm for reversing underachievement*. Storrs, CT: University of Connecticut, The National Research Center on the Gifted and Talented.
- Beardslee, W. R. (1989). The role of self-understanding in resilient individuals: The development of a perspective. *American Journal of Orthopsychiatry*, 59, 266-278.
- Bloom, B. (Ed.). (1985). *Developing talent in young people*. New York: Ballantine Books.
- Bruer, J. T. (1993). The mind's journey from novice to expert. *American Educator*, Summer, 6-46.
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experiences*. New York: Harper & Row.
- Csikszentmihalyi, M., Rathunde, K., & Whalen, S. (1993). *Talented teenagers*. New York: Cambridge University Press.
- Csikszentmihalyi, M., & Robinson, R. (1986). Culture, time, and the development of talent. In R. J. Sternberg, & J. E. Davidson (Eds.), *Conceptions of giftedness* (pp. 264-284). New York: Cambridge University Press.
- Emerick, L. (1992). Academic underachievement among the gifted: Students' perception of factors that reverse the pattern. *Gifted Child Quarterly*, 42, 140-146.
- Erikson, E. H. (1963). *Childhood and society*. New York: W. W. Norton.
- Erikson, E. H. (1968). *Identity: Youth and crisis*. New York: W. W. Norton.
- Erikson, E. H. (1980). *Identity and the life cycle*. New York: W. W. Norton.
- Feldman, D. (1986). *Nature's gambit*. New York: Basic Books, Inc.
- Ford, D. (1994). Nurturing resilience in gifted Black youth. *Roeper Review*, 17(2), 80-84.
- Gardner, H. (1993). *Multiple intelligences: Theory into practice*. New York: Basic Books.
- Hebert, T. (1993). *An ethnographic description of the high school experiences of high ability males in an urban environment*. Unpublished dissertation, Storrs CT: University of Connecticut.
- Moon, S. M. (1991). Case study research in gifted education. In N. Buchanan, & J. E. Feldhusen (Eds.), *Conducting research and evaluation in gifted education* (pp. 157-178). New York: Teachers College Press.
- Newell, A., & Simon, H. A. (1972). *Human problem solving*. New York: Prentice Hall.
- Reilly, J. (1992). *Mentorship: The essential guide for schools and business*. Dayton: Ohio Psychology Press.
- Richert, S. E. (1992). *Equitable identification of students with gifted potential*. ERIC Document Reproduction Service, ED366159.
- Rutter, M. (1987). Psychosocial resilience and protective mechanisms. *American Journal of Orthopsychiatry*, 57, 316-331.
- Talent Beyond Words*. (1993). Report to the United States Department of Education Jacob Javits Gifted and Talented Students Program. New York: Arts/Connection.
- Zimmerman, B. (1996). Acquisition of self-regulatory skill: From theory and research to academic practice. In R. Bernhardt, C. Hedley, G. Cattaro & V. Svolopoulos (Eds.), *Curriculum leadership: Redefining schools in the 21st Century*. New York: Fordham University.

"STAND AND UNFOLD YOURSELF"

A Monograph on the
Shakespeare & Company Research Study

STEVE SEIDEL

*Harvard Project Zero
from a report produced by the staff of
the Shakespeare & Company Research Study*

INTRODUCTION

For twenty years, Shakespeare & Company, a classical professional theater company in Lenox, Massachusetts, has been committed to three simultaneous purposes: producing the plays of William Shakespeare as well as a repertory of other works, including new plays; professionally training actors; and teaching Shakespeare at elementary, secondary and undergraduate levels. The Company's ways of teaching Shakespeare evolved from their distinctive approach to rehearsal, performance, and their training of actors. This approach stands in stark contrast to traditional teaching in our public schools.

A team at Harvard Project Zero began research in 1995 in order to better understand learning and teaching in two of the Company's numerous education programs: *The Fall Festival of Shakespeare* and *The National Institute on Teaching Shakespeare*. Specifically, the team's purpose was to identify what the participants were learning and the principles, structures, and pedagogy at the foundation of those learning experiences.

The study began in July, 1995 and continued through two seasons of *The National Institute on Teaching Shakespeare* and *The Fall Festival of Shakespeare*. Project Zero staff visited these school programs, observed sessions, attended student performances, interviewed teacher and student participants, reviewed written materials, and talked with program faculty and administrators.

The central questions of this study were:

- Why do these programs work so well?
- What is it participants are actually learning?
- What is critical to the success of these programs?

The research team produced an extensive report of findings in 1998. This monograph is drawn from that report.

"Stand and Unfold Yourself"

The tragedy of *Hamlet, Prince of Denmark* begins with these lines.

Scene I. Elsinore. A Platform before the Castle.

Francisco is at his post. Enter to him Bernardo.

Bernardo: Who's there?

Francisco: Nay, answer me; stand, and unfold yourself.

In a rehearsal of *Hamlet* conducted by one of the teaching artists from Shakespeare & Company, these lines, seemingly inconsequential, are examined as deeply and closely for possible meanings as any of the most famous lines from this play. Almost magically, as each line, phrase, and word is considered, meanings resonate both within the context of the play and in the context of the rehearsal.

"Stand and unfold yourself" has come to epitomize the work of Shakespeare & Company's education programs. First, that work is physical: it is about standing up. But it goes further. The work is also about "unfolding" and opening oneself—to the highest level

The study has been conducted by a team of researchers from Project Zero at the Harvard Graduate School of Education: Barbara Andrews, Ellen Doris, Dawn Ellis, Jenna Moskowitz, Carol Phillips, Shree Ram, Jennie Treeger. Steve Seidel is Principal Investigator. Sara Hendren and Denise Simon provided editorial assistance for the writing of this monograph.

Kevin Coleman is Director of Education at Shakespeare & Company. Mary Hartman is Director of Education Programs at Shakespeare & Company. Tina Packer is Artistic Director of Shakespeare & Company. Dennis Krausnick is Director of Training at Shakespeare & Company. Christopher Sink is Managing Director of Shakespeare & Company.

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of literacy, to Shakespeare's language, to the ideas and meanings contained in his words, to other people. At the same time, it is about standing and embodying the work. It is about revealing oneself—taking risks, and accepting and embracing the vulnerability inherent in those risks. It is about moving away from a sleepy, protective posture of being folded up, or folded into oneself, and moving toward a tall, open, awake, and graceful stance.

OVERVIEW

Since 1978, Shakespeare & Company has maintained an education program dedicated to working with students and teachers in elementary, middle, high schools, and universities. This education program has developed simultaneously with the Company's approaches to rehearsal, their performance aesthetic, and their distinctive actor training program.² Many of these foundational ideas are captured, albeit briefly, in the 1996 mission statement of the education programs. It begins with the charge "to bring the classical poetry and plays of Shakespeare alive and into the lives of as many students and teachers as possible."³

The *Fall Festival of Shakespeare* has grown over the past 11 years into an annual project involving ten schools, approximately 40 artist-teachers and other Company members, and over 400 young people. The demand from students and schools wanting to participate continues to increase, and in 1999, the Company initiated a *Spring Festival of Shakespeare* in the eastern part of Massachusetts. The *National Institute on Teaching Shakespeare* was a month-long intensive institute for approximately twenty high school literature teachers, though teachers of other subject areas

also participated. A recent follow-up study of participants and the influence of their Institute experience on their teaching 2.2–3.5 years later reveals that benefits "continued or increased in the areas of teaching Shakespeare, teaching other texts, educational philosophy, and relationships with students (Philips, 1999)."⁴

During the twenty years since their establishment, there has been steady growth in the Company's educational programs, as measured in both the range of programs offered and the demand for them. These programs are a major commitment for the Company, and command a budget roughly equal to that of their entire performance season. Today, Shakespeare & Company's education programs have a budget of approximately \$700,000. Schools and school districts return year after year to request the Company's programs. Students in the high schools that are part of *The Fall Festival of Shakespeare* usually choose to participate for three or four years. Many of the artists working as staff/faculty in the education programs stay on for many years despite the uncertain and sporadic nature of work in arts education.

Few arts education partnerships between arts organizations and schools have the benefit of two decades of continuous work and evolution. This study was an opportunity to explore the workings of a mature, developed, and highly successful arts education partnership.

Why Worry About Studying Shakespeare?

Several factors in American public education suggest the special relevance of Shakespeare & Company's educational programs. First, the plays of William Shakespeare are at the core of our high school literature curriculum, perhaps the only literature to occupy a place in the curriculum of virtually every high school in the country. At some point, nearly every graduate of an American high school will have been expected to read at least one of Shakespeare's plays.

² All of the aspects of the Company's work have evolved with and through the work of the Company's founders: Kristin Linklater, Dennis Krausnick, and Tina Packer. Linklater's approach to voice training for actors, which has an international reputation, and Packer's ideas about the function of theater were the original impetus for the creation of the Company.

³ Coleman, K., Hartman, M., and Lee, L. (1996). *The Mission Statement of the Shakespeare & Company Education Programs*. Internal Document. Lenox, MA: Shakespeare & Company.

⁴ Philips, C. (1999). *Teachers' Voices: A Case Study of Professional Development Associated with the National Institute on Teaching Shakespeare*. Unpublished document.

It would be hard to make this claim of any other author or specific body of work.

The team found no significant research investigating the success of most high schools in introducing students to these plays in ways that promote deep understanding and a long-term relationship between the students and Shakespeare's work. It certainly appears that the overwhelming majority of high school students have little deep engagement with the plays while in high school: indeed, most students find Shakespeare's work irrelevant and inaccessible. They leave high school with little understanding of Shakespeare's accomplishments or their own capacities to enter into those plays, as readers or audience, and to draw meaning and pleasure from them. This is not true, however, of the nearly 800 hundred students who participated in this study. On the contrary, they reported with virtual unanimity that they developed a strong sense of their own capacities to understand and engage deeply with Shakespeare's plays.

Bringing Students to the Highest Levels of Literacy

Considerable documentation, not least the notoriously poor results of far too many public school students on standardized tests of reading skills, indicates that there is reason to worry that our high school students are not graduating as confident readers. There is little reason for optimism that many students are accomplished in understanding difficult texts, whether they be from the world's literature or from a physics text. Presently, our schools struggle to make sure all students master the levels of literacy involved in only basic decoding of texts. By contrast, reading, enjoying, and understanding any of Shakespeare's plays is a task that could easily be considered a hallmark of the highest levels of literacy.

How, then, is it that Shakespeare & Company's programs work so well to help various levels of readers enter the difficult and even cryptic language of Shakespeare?

One high school student who participated in the *Fall Festival of Shakespeare* provided a useful perspective

on the use of rehearsal techniques in studying Shakespeare. "In school we're just reading over the book: reading it to get to the next chapter, never with feeling in it or gratification. When I walked out of classes reading Shakespeare, I used to be confused as to what it was about. After you walk away from these rehearsals, you can really understand the scenes because of the many techniques used to go over the various interpretations of the text." Another student from a different high school remarked, "When Shakespeare & Company makes us go through things word by word if we don't understand them, it is weird how much you learn, and what doesn't leave your head."

Many participants also noted that their experience as active readers of complex texts in these programs was relevant well beyond the specific work they did with Shakespeare's plays—in entering math and physics texts as well as approaching other literature. One student described the text of these plays as a puzzle to "fragment, take apart, and fit together again." The serious attention Shakespeare & Company gives to the imaginative, emotional, and intellectual responses of students to these complex texts is the foundation of a pedagogy that embraces the most difficult texts as challenges well within the capacity of typical adolescents.

Refusing to Simplify

Tina Packer, the Artistic Director of Shakespeare & Company, once reminded a group she was addressing that "words are older than we are." The respect for words—the worlds of meaning they contain—and a desire not to diminish or simplify those words drives the Company's approach to exploring complex texts. This respect for complexity is, perhaps, the deceptively simple core of a pedagogy. The texts they work with are so complex that most teachers feel compelled to simplify them in order for them to be understood or appreciated.

In every aspect of their pedagogy, the Shakespeare & Company artist-teachers guide their students away from the idea that there is one "right" interpretation of Shakespeare's meaning or one "right" way to play a

character or scene. Through the many exercises they've designed and their carefully considered patterns of questioning, they turn their students back toward themselves as the source of their own understandings. They want their students to locate their understandings in what sense and meaning the text has for them "in this moment" and not in some notion of what they think the text "should" mean.

Throughout the interviews conducted for this study, students articulated their own perceptions of the complexity of Shakespeare's language and plays. One high school student, discussing how Shakespeare developed multiple facets to his characters, stated that these characters "all seem real in terms of what they are doing, and they have their own issues. Because everything [about the characters] is complex and real, totally filled to the brim with emotion." Another student noted, "If you really read through all of the [plays], you come across all of life's major issues and problems." And another student suggested, "If you really look at what it says, it tells you everything. If you just take it for what you are saying, and not explore its whole worth, then that's not true to Shakespeare." Mary Hartman, Director of Education Programs, agrees: "It is through the language that all these categories of experience (physical, imaginative, intellectual, emotional, spiritual, aesthetic) are integrated. We respect the complexity, but it is the specific attention to the words that focuses thoughts and gives thinking its energy."

Neither the words nor our relationship to them—our sense of their meanings—is straightforward or simple. Hartman suggests that the richness of Shakespeare's language is, quite possibly, a reflection of the role of language in Elizabethan culture. "Shakespeare was writing in a time that may have been more linguistically rich than ours and, in turn, may have inspired a richer experience of language." She notes that Shakespeare used no stage directions in his plays and that his theaters had virtually no scenery. "Everything had to be communicated through the language—setting, character, action, emotions, the story."

"What keeps it complex, moment by moment, is that it is poetry." Kevin Coleman, Director of Education insists. "The individual words keep it complex. The complexity is inherent in the text moment by moment, word by word."

Coleman notes that language functions quite differently in our contemporary American culture. "The language we are most familiar with tries to pin things down. This is why we feel it is so important to work with poetic language: poetic language versus scientific language, or even hopeless language or slang. Poetic language is expansive and opens up. Scientific language reduces. In our over-emphasis on science and math in schools, in our love affair with technology, we have left our imaginations impoverished."

Coleman's deep concern resonates, especially in the context of the approach to reading Shakespeare taken in many American classrooms, where reading the play may be an assignment, but there is little hope that students, in fact, will do it. Instead, teachers bring videos to class, and the video format becomes the method of sharing the play—an uneasy truce between our desire for students to experience the plays and our confusion over how to help them actually enter the text directly.

As Lisa Schneier, a high school Language Arts teacher, suggests, "[W]e organize subject matter into a neat series of steps which assumes a profound uniformity among students. We sand away at the interesting edges of subject matter until it is so free from its natural complexities, so neat, that there is not a crevice left as an opening. All that is left is to hand it to them, scrubbed and smooth, so that they can view it as outsiders (Schneier, quoted in Duckworth, 1990).⁵

Teaching and Learning for Understanding

The Company's approach to teaching Shakespeare is also an elegant exemplar of teaching for deep understanding. As such, it deserves consideration from any teacher seriously committed to exploring pedagogy built on the ideas put forth by Perkins, Gardner,

⁵ Duckworth, E. (1991). Twenty-four, Forty-two, I Love You: Keeping it Complex. *Harvard Education Review* 61:1, 1-24.

Perrone and their colleagues in the Teaching for Understanding Project (Wiske, 1998).⁶ According to these authors, understanding can only truly be assessed, and, for that matter, even achieved, through performance. Perkins (1998, p. 41) argues, "First, to gauge a person's understanding at a given time, ask the person to do something that puts the understanding to work—explaining, solving a problem, building an argument, constructing a product. Second, what learners do in response not only shows their level of current understanding but very likely advances it. By working through their understanding in response to a particular challenge, they come to understand better."

In the pedagogy of the *Fall Festival of Shakespeare*, the performance of understanding is literal and, in a sense, high stakes—there will be several hundred people out in the auditorium watching. Of course, the purpose of the Festival performances is not critical judgment, but the sharing of the experience of Shakespeare's great works. However, these performances are not simply school-room exercises: they are authentic acts of communication, culture and community. When they are successful, they are demonstrations of deep understanding that make the complex and difficult world of Shakespeare's texts lucid, vibrant, relevant and moving to everyone in the auditorium.

Moving toward Authentic Projects in the Literature Curriculum

One of our concerns in this study was to examine just how the Company's education programs represent alternatives to contemporary schooling and in what ways they reflect elements of the last decades of education reform in America. As one of the oldest and most fully developed of the educational theater programs in the country, Shakespeare & Company offers lessons for other reformers and alternatives to

traditional schooling. One perspective on the Company's work in schools relates to project-based learning, in this case in the literature curriculum.

Project-based learning has roots in the philosophy of John Dewey and the educational experiments pioneered by William Kirkpatrick, Dewey's contemporary and colleague from Teachers College in New York City. Dewey, Kirkpatrick, and countless others since, including many at Project Zero, have found in project-based learning an alternative to the desk-bound, transmission-based approach of most traditional classrooms. With projects, students get to work on solving authentic problems, working in groups, using the materials and methods of the professions, and creating products or performances.

In a framework for considering the "rigor and relevance" of project-based learning, Steinberg (1998)⁷ identifies six elements—authenticity, academic rigor, applied learning, active exploration, adult relationships, assessment practices—that she argues are critical to the design of powerful projects. In brief, this study revealed significant evidence that Shakespeare & Company's work points to an affirmative answer to each of the questions stated below, suggesting that their work stands as an important model of rigorous project-based learning.

Authenticity

- Is it a problem or question that might actually be tackled by an adult at work or in the community?

Academic rigor

- Does it challenge students to use methods of inquiry central to one or more disciplines? (e.g., to think like a scientist)

Applied learning

- Does the project lead students to acquire and use competencies expected in high performance work organizations (e.g. teamwork, appropriate use of technology, problem-solving, communications)?

⁶ Wiske, M. S. (1998). *Teaching for Understanding: Linking Research with Practice*. San Francisco: Jossey-Bass.

⁷ Perkins, D. (1998). *The Intelligent Eye: Learning to Think by Looking at Art*. Santa Monica, CA: Getty Center for Education in the Arts.

⁸ Steinberg, A. (1998). *Real Learning, Real Work: School-To-Work as High School Reform*. New York: Routledge.

Active exploration

- Are students expected to communicate what they are learning through presentations and performances?

Adult relationships

- Do students have an opportunity to work closely with at least one adult with relevant expertise and experience?

Assessment practices

- Do students reflect regularly on their learning, using clear project criteria that they have helped to set and do adults from outside the classroom help students develop a sense of the real world standards for this type of work (1998)?

Learning in Four Realms at Once

Participants in the *Fall Festival of Shakespeare* and the *National Institute on Teaching Shakespeare* identified four major realms of learning they experienced in these programs:

- learning about Shakespeare and his language, and ways of reading the text of his plays
- learning about acting
- learning about working in creative communities
- learning about oneself: linking self-knowledge to social and intellectual development.

The diagram below suggests the way in which these realms of learning emanate from the many experiences participants had with each other and the artist-teachers in workshops, rehearsals and performances. Not

LEARNING IN FOUR REALMS AT ONCE



surprisingly, the research revealed that the realms overlap and interconnect.

Specific aspects of these realms are delineated in greater detail in the following four sections.

Learning About Shakespeare and His Language

"...and there was this unfolding, this flowering..."

A 1995 National Institute participant describing her experience exploring a passage from *Much Ado About Nothing*

- Shakespeare's plays are engaging, powerful, funny, moving, provocative, and full of personal relevance. His work, upon careful and active reading and exploration, is "universal and timeless." Shakespeare is not, as many previously thought, a "dusty, old dead guy."
- Reading Shakespeare's plays is an active process of interpretation, and the plays themselves are open to divergent interpretations. Indeed, it is in exploring divergent interpretations that the complexity and richness of the plays becomes most apparent.
- Shakespeare's language is full of ambiguity and multiple meanings—a reflection of human experience.
- When reading Shakespeare, one can build the confidence as well as strategies for reading many other kinds of complex texts (mathematical theorems, for example), but most especially poetry and drama.

Learning About Acting

"Shakespeare wrote plays; actors were called players; they played in a playhouse. Play is meeting him on his terms. He wrote this stuff to be played."

Kevin Coleman

- Acting, or embodying the language, is a very effective way to understand what is happening in a dramatic text.
- Interpretations and understandings of a text are not static and, in fact, can evolve and change

frequently. Further, one can adopt a disposition to seek out deeper understandings through active engagement with the interpretations of others and a resistance to settling on a single interpretation.

- Acting requires making sense of language on multiple levels (narrative, psychological, emotional).
- That acting requires embodying a text and, therefore, involves the body, voice, feelings, text, action, movement, self-awareness, and awareness of others.
- That one's imagination is an essential tool in visualizing and, in turn, understanding a dramatic text.

Learning About Working in Creative Communities

"Everyone counts."

Kevin Coleman

- A strong sense of community can be developed with people who share a common interest in Shakespeare by struggling together to make sense of his plays, especially through the challenging approach of acting the texts.
- Each individual has an important contribution to make to the work of the group.
- Rules, high expectations, and discipline are an important element of the life of a creative community.
- Inclusion is a powerful and positive principle, especially as it validates one's own presence in a group.
- In a challenging collective project, each individual may well be pushed beyond his or her sense of personal limits. In this collective effort, each person deserves support and attention from the group, and the ultimate success of the group's effort is dependent on providing that support and attention.
- By suspending judgment and fostering open communication, especially about feelings and conflicting ideas, it can be easier to keep an open mind to other viewpoints and new perspectives.

Learning About Oneself as a Learner

"I have opened myself up to risks, rejections, and criticisms; life is sweeter."

1995 National Institute participant

- Knowing and trusting one's ideas and feelings and keeping one's mind open to diverse and contradictory ideas is integrally linked to personal growth and intellectual development.
- Learning about other people's ideas, feelings, and experiences (including characters in plays) provides perspectives that support coming to deeper self-knowledge and awareness.
- Treating oneself well, and being treated well by others—with kindness and generosity—increases the likelihood of and willingness to take risks.
- One can take approaches to problem-solving that were used effectively in rehearsal and adapt and use them in other areas of life.
- Producing and performing plays, just as most vocations, require managing limited time, multiple responsibilities, and competing demands.

How Can Artmaking Inform Teaching?

Through extensive interviews and conversations with the faculty and directors of the Company's education programs, it became clear that the principles underlying their program design and pedagogy came significantly from their own work, as individuals and as a company, in making theater. This is not surprising. Their work as artist-teachers in schools is constantly juxtaposed with the demands of preparing and mounting a season of performances. They move seamlessly, if not effortlessly, from acting to directing to training professional actors to teaching adolescents or adults to managing and administering—sometimes all in a single week or even a single day.

Listed below are the principles that drive the practices of Shakespeare & Company's education programs. These principles are extracted from inter-

views with Company administrators and the artist-teachers, and discerned from extensive observations of rehearsals, classes, workshops, and performances.

- Shakespeare's plays articulate virtually every significant aspect of human nature, human relations and emotional experience.
- Studying Shakespeare can and should be, simultaneously, an investigation into the complexity of human relations, the capacity of language (written and performed) to express a very broad range of human experience, and the glory and pleasure of classic narratives and dramas.
- Studying Shakespeare's plays is an enterprise of extraordinary complexity and, fundamentally, an interpretive process—a process in which each reader/actor must make personal sense of the texts.
- Acting the plays is a way of arriving at insights, making connections, and developing appreciation and understandings of Shakespeare that are not readily available through lecture, formal discourse, or silent reading.
- Acting is a process that, though extremely demanding, can be learned by anyone.
- The deepest understanding is dependent on the learner subjectively valuing the experience (of reading, acting, engaging with the text) as it is happening within and for oneself. Such understanding should not be seen in relation to an external reward (a grade, a teacher's approval) or to the idea of finding an objective "right answer."
- Participants must choose to participate as a pre-condition to learning. The most valuable learning happens when the learner chooses and desires to learn.

These pedagogical principles have evolved over twenty years. In this process, particular qualities of the Company's approach to making theater have had major influence on their approach to professional actor training and the teaching of Shakespeare in schools.

Some of the most important of those artistic perspectives and practices include:

1. **Valuing "truthfulness."** Guiding one's actions in rehearsal and performance by a rigorous awareness of what feels "true" or "honest" or "genuine" at that moment.
2. **"Encouraging openness to new possibilities."** Constant effort to resist the temptation to find and settle on one way of playing a scene, line, or moment.
3. **"Presence."** Constant effort to be fully present with each person on the stage and in the room.
4. **"Playing" Shakespeare.** Actors in Elizabethan England were called "players." The aim here is to approach acting Shakespeare's plays in a spirit of play. Fun is a crucial element, as are the rules that guide this play and the discipline required of serious players in any setting.
5. **"Permission to Fail."** Everyone shares responsibility to take risks and support others in taking risks. This means, first and foremost, that failure is not only quite acceptable, but necessary and expected.
6. **Generosity.** Everyone shares responsibility to approach the work and their colleagues with a spirit of generosity, of offering to help, give, and share whatever they have or perceive may be needed by others.
7. **Visceral language.** A commitment to work physically with the text in order to explore its visceral qualities and the meanings that may only be discovered through "embodying" it. Further, a celebration of the integration of intellectual, physical, emotional, imaginative, and spiritual responses to each word of the text.
8. **"Freeing the natural voice."** A commitment to employing training techniques with the objective of a voice in direct contact with emotional impulse, shaped by intellect but not inhibited by it.

The study also identified the following conditions as essential to acting as practiced by the Company and as a mode of learning:

- a safe environment (physical and emotional),
- an environment in which all ideas are considered and valued—where hard work is mixed with humor and playfulness,
- a discipline and work ethic that fosters a sense of personal responsibility to the work and the group,
- supportive and respectful relationships among everyone in the group,
- opportunities for learners to find personal points of engagement and to make choices about significant aspects of their work and learning,
- frequent and ample opportunities for learners to be actively engaged in the various aspects of the work of acting (including watching, listening, and responding to others' work),
- support and respect for the subjective knowledge of the learner and the individual connection that the learner makes to the text, the play studied, and the work process,
- appreciation for the contributions scholarship makes to understanding Shakespeare, and opportunities to integrate insights from scholarship with insights from acting the text,
- opportunities to perform for witnesses (artist-teachers, fellow cast members, classmates, audiences),
- opportunities to reflect on one's work, both individually and collectively.

What are the Qualities of the Artist-Teachers of Shakespeare & Company?

1. They are all artists.
2. They share a common aesthetic—a common body of knowledge about Shakespeare and the related disciplines necessary to perform his works.
3. They have a good working knowledge and abiding curiosity about the plays.
4. They have a proven progression within the rehearsal process that they follow or around which they improvise; in turn, this progression gives form and depth to their activities.
5. They have co-workers, co-directors, more experienced practitioners, and master teachers to learn from and consult with regularly.
6. They are not intimidated by strong emotion and high energy.
7. They are infinitely interested in the students, and in creating a meaningful educational experience, and are committed to the goals of the program.
8. They challenge themselves as they challenge their students; and specifically for the artist-teachers in schools, their students see them performing or directing during the summer season at Shakespeare & Company. They succeed and fail in public.
9. They develop strong relationships with the school administrators, teachers, and parents.
10. They have access to "experts"—fight directors, technical directors, sound, light, and costume designers, and dance instructors.
11. They remember what it was like to be in high school.
12. They are in the schools for a limited period of time for a special project.

Developed by Kevin Coleman, Shakespeare & Company

How Can More Adolescents Have This Experience?

This study found that a pedagogical approach built on the artistic practices of theatrical rehearsal and performance was highly successful in engaging adolescents and adults in the study of Shakespeare's plays. Since these plays represent a core element of the high school literature curriculum and, in a sense, are among the ultimate challenges to both high school students and teachers, the success of Shakespeare & Company's programs raise important and difficult questions about how more adolescents can have similar experiences.

The following questions, though somewhat specific to this situation, are the kinds of questions that come up in consideration of virtually any replication/adaptation effort.

- What training, support, and experience are needed to create new programs that are faithful to the philosophy and design of these models?
- Shakespeare & Company's education programs are embedded in a rich community of artists engaged in professional productions. Can people working in settings with far more limited professional and artistic resources still create and sustain effective programs?
- Starting new arts education programs is expensive. Can financial assistance be secured to induce the kind of training and support needed to create programs modeled on this work?
- What is a reasonable expectation for the number of years it might take for a new program to fulfill its potential?
- How can a group insure that the creation of programs modeled on the Company's educational pedagogies and approaches is a creative learning process and not simply an imitative one?

The study further identified conditions that are important to (though no guarantee of) the success of efforts to support replication/adaptation. Those conditions are:

- supportive local organizations (theaters, arts agencies, and schools, for example) to insure that the individuals who commit to this work are given institutional support,
- a community of artists and educators with an inclination toward this kind of work,
- a community with an interest in the arts and arts education, one which will value and support innovative arts programs,
- financial support, both for the new program and for a continued relationship with Shakespeare & Company staff.

CONCLUSION

The realms of learning described by the participants in these programs offer another view of what the arts can create, contribute, and teach when carried out in favorable circumstances by well trained artist-teachers. The programs created by Shakespeare & Company provide examples of excellence in professional development, teaching, and learning to be studied and adapted by other artist-teachers, classroom teachers, and teacher-trainers.

Further, they provide powerful evidence that on the highest levels of literacy, in the realms of social and personal growth and development, and in the development of high-order thinking skills, the arts provide an ideal setting for multi-faceted and profound learning experiences.

Why the Arts Matter in Education
or
Just What Do Children Learn
When They Create an Opera

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INTRODUCTION

At the turn of the last century, the educator Francis M. Parker wrote for a broad public that all deep learning was "expressive", and combined "the manifestation of thought and emotion." [1] The philosopher, John Dewey, carried the point a step further by arguing for the central role of the arts in all general education.

In a culture more inclined to value the immediate over the eternal and the applicable over the aesthetic, we have frequently neglected their arguments. In many American schools that claim to teach the arts, children receive instruction no more than an hour a week for the thirty-two weeks they are in school.

However, a century later, contemporary educators are reclaiming Parker's and Dewey's arguments by using avenues different from philosophical argument. In the last few years we have seen not only the creation of national arts standards and the collection and reporting of the National Assessment of Educational Progress data on American students' performance in the arts, but the appearance of a number of research studies suggesting that there are substantial benefits to be gained from arts education. [2]

Having begun to demonstrate that arts education matters, we are in a position to muster the understanding and resources to ask the next questions: Why does involvement in music, theater performance, or the visual arts spark engagement with school, higher levels of academic performance and increased participation in community service? Under what conditions do the arts have these effects? These are difficult questions, but they are the keys to gaining the deeper understandings that will permit us to explain the importance of arts education to a public that is just beginning to listen. Moreover, answering them will give us the capacity to design quality programs likely to yield lasting effects.

Lifting the Lid: Understanding Why Arts Education Has Effects

The customary approach to demonstrating the effects of arts education is to select two groups of students, preferably similar in their backgrounds. One group receives no formal arts education, while the second group receives arts training in forums such as the addition of music to their curriculum, the integration of visual arts into their social studies curriculum, or a series of artist residencies. Following that intervention, we identify what distinguishes the students who have had arts education from their peers.

S (Time 1) —> No arts education —> S (Time 2)
 S (Time 1) —> ARTS EDUCATION —> S (Time 2)

While helpful as far as it goes, this approach tells us nothing about the specific effects that arts education has and why those particular effects occur.

For instance, imagine we find that, as a group, students involved in an intensive visual arts program perform better in school than their peers. What can we claim about the specific effects of visual arts learning on academic performance? If these students also perform better on academic tests, and succeed in the next level of education, we might claim that their visual arts experience has conveyed general learning strategies and understandings. But suppose we find that these students are better at reading diagrams and graphs, and doing geometry and that doing well in geometry places them in higher level math classes with peers who are more invested in school? What if all that distinguishes these students, beyond their higher grades, is regular attendance rates? Do we want to argue that visual arts training lent them persistence? Do we consider whether schools give higher grades to good citizens? Depending how we answer these questions, our understanding of the effects of visual arts learning would be dramatically different.

The rest of this paper discusses the particular role that qualitative research can play in providing a deeper, if not yet conclusive, understanding of what effects arts

education programs have and why these effects may occur. The focus of this work is a multi-year study of "Creating Original Opera (COO)," a program in which elementary students form a company to write and produce an original opera.

Beginning with "Gregarious" Moments

In a preliminary evaluation of the Creating Original Opera program, teachers made the claim that "the opera makes students work harder and smarter." To understand what they meant, we worked closely with teachers, in observing classes and examining tapes and transcripts of student work. We asked teachers to identify instances of learning that they believed were specific to the opera. They pointed out situations such as the following in which a teacher and two students (Wendell and Anna), along with two other students (S1 and S2) developed a set of feasible solutions for a changing set:

T(teacher): So let me re-state the problem for you. All right, the fact is that we are going to have two drops.

S1: The library.

T: The library, and the other one is...? The what?

S2: The playground.

T: The playground.

T: Now, they are going to be happening in the same space on stage. Now we don't have a high place to hang these things from... I need some of your thoughts....

A: Well, you know how you have those maps up on the wall there? (she points) If we could just find something to sort of hang it from, and then pull it down each time and then when you're finished you can just pull it down and...

T: You mean like a shade?

A: Yeah.

T: OK, let's think about that. That wall is a folding wall they open and close frequently...

A: So it might have to be a little forward...

T: ...The whole idea of something that pulls down and goes back up is a neat idea, but the idea of putting something...across the wall might not work. Does anyone else have another idea of what we could do? Wendell?

W: We could take like a long strip of wire or something like that and get a piece of paper, and get a big roll and like a garbage can kind of thing, but bigger, and we could staple the design on it, and keep rolling it when we want a different design on it. Like if you want a different set design...and then if you don't want the people to see what you're doing you just close the curtain and...

T: Do we have curtains?

W: No, but I mean, you could just turn the lights out or something.

T: Oh, blackout...go to black.

W: Yeah. [3]

When we asked what the teacher saw in this episode, she said unhesitatingly, "They just keep working toward a solution. The opera's so...gregarious." In short, she had a theory about what students were learning from the opera: something about persistent joint work. She also had a sense of why that persistence mattered: somehow it created an ecology in which quality was a central issue.

Our challenge as researchers was, in part, to follow up on that intuition by examining what exactly happened in those "gregarious" moments and asking why gregariousness should improve, not merely animate, what students were able to do.

What is learned in an opera company

To pursue these questions, we selected four classrooms in which the COO program was fully implemented (e.g., classroom and specialist teachers were involved, teachers were trained in the program, there was adequate classroom time, and so forth). Since we were developing an understanding of "gregariousness" and why it mattered, we wanted maximum insight into the

fine workings of opera classrooms. In a sense, we wanted to take the back off the watch and see how the fine cogs and wheels produced movement and change.

To help us gain such insight, we developed a set of qualitative approaches to collecting data. These included classroom observations, transcripts of teacher and student interviews, and student ethnographies, logs of important activities and collections of student work. From these sources we selected moments of shared problem-solving that we compared to similar episodes from non-opera settings, such as working in small groups to answer an open-ended math problem or to develop an oral presentation on Native American leaders in social studies. By studying and coding a sub-sample of this data, we developed a set of features that distinguished many of the opera episodes of whole class discussion from problem-solving in other contexts. Using the larger pool of episodes, we could see whether or not these contrasts in collaborative work held up. These initial findings are summarized in Table 1.

These data suggested that students in the opera setting participate in more substantive ways in group interactions than students in the alternative settings. In addition, these data demonstrate that during opera

sessions, students operate in a more cohesive way, connecting what they say to others' turns, their own earlier comments, and to issues that have a long-running history for the group.

Interestingly, this overall pattern holds in three of the four classrooms studied. It breaks down in the fourth, where students were more often a work force doing teachers' bidding than a company of individuals in charge of making choices and decisions. In that classroom, the data from opera contexts is no different from that of non-opera settings.

Finally when we look across three time periods (T1 = outset of the opera process, T2 = midpoint, T3 = the week of the final production) another equally interesting pattern becomes apparent. The cross-time comparisons show that within opera contexts these substantive and cohesive collaborative behaviors actually increase in the large majority of the categories. This pattern suggests that the opera work is not simply one which is more conducive to joint work, but one in which collaborative interaction grows over time.

Thus, we go beyond the observation that the opera experience produces students who collaborate effectively to solve artistic problems. We can begin to specify what it is that students learn about collaboration in the search for quality. In the context of continuing and well-implemented opera work, groups of students become increasingly expert at active participation in the form of taking turns and asking questions. Moreover, students become increasingly expert at coherent work towards quality. That is, they build off what others propose. Student remarks link back to earlier turns, they can make constructive comments, and they can edit their own earlier suggestions in the light of an evolving discussion. Finally, they can see their current conversation as linking back to, or shedding light on, an idea or issue that they have taken up earlier and are continuing to address.

This phenomenon of sustained and coherent collaboration is apparent not only to observing researchers, but to students themselves. Students are keenly aware of the way in which joint creation defines their opera work. When asked to describe important choices, decisions, and insights ("ah-ha's"), they quite

Table 1: Collaborative Interactions across Opera and Non-opera Contexts

Dimension:	Non-opera Context	Opera Context
% students participating	33	50
% students taking substantive turns	20	26
% of student turns with questions	11	12
% student turns with links back to previous comments	18	38
% student turns with constructive critique of others	9	32
% student turns with revisions of a student's own earlier ideas or proposals	9	26
% student turns with links back to a long term theme or issue for the group	7	20

Table 2: Longitudinal Changes in Collaborative Interactions across Three Classrooms

Dimension:	Classroom 1			Classroom 2			Classroom 3		
	T1	T2	T3	T1	T2	T3	T1	T2	T3
% students participating	10	15	53	50	44	60	10	13	50
% students taking substantive turns	20	23	33	25	44	67	17	33	53
% of student turns with questions	13	17	17	17	27	27	8	8	6
% student turns with links back to previous comments	27	27	40	38	27	60	21	25	29
% student turns with constructive critique of others	13	15	40	32	40	40	6	21	29
% student turns with revisions of a student's own earlier ideas or proposals	9	17	40	17	15	27	6	8	29
% student turns with links back to a long term theme or issue for the group	7	7	10	20	15	27	8	8	21

typically, focus their responses on gradually evolving solutions to an artistic challenge. Here, for example, is an elementary school student explaining how composers and writers developed the concept and structure of a song that had long eluded them. It is a song to be sung to children trapped in a natural history museum by dinosaurs who come to life and warn them to save the earth or meet extinction.

See, see, we knew that we wanted to have a song, you know, where the dinosaurs come to life and warn the kids that they better not fight or they will become extinct just like they did. And so we made up this tune, and we were fooling around with it on the keyboard. And Marcus keeps switching like the background beat—you know, like disco or Latin, or Caribbean—and we were getting angry with him. Then he won't quit and he makes it into this, like this rap, and going "Hs-shahs-shh shh." And it was good. So we like started to snap and slide around. And then we took it to the writers who said, "No, no rap, no way." And then we got back at them and said that it made the dinosaurs seem cool, like they knew what was up, so the kids should listen to them. (4)

Why Does Coherent Collaboration Matter?

Having identified what it is that students may be learning as part of opera sessions, we must still deal

with the question of why it matters. What do these findings teach us about how or what arts education contributes to learning?

Students' narratives, like the dinosaur story above, were telling. They hinted at a possible link between coherent collaboration and the achievement of more than "ho-hum" solutions to artistic challenges. To pursue this possibility we returned to all the instances of sustained, joint discussions that were about solving an artistic problem in the opera, such as composing a song or not firing a set designer. Early on in the opera process, as the script and songs are first written, increasing numbers of self-contained (i.e., occurring all in one session) collaborative discussions occur, for example:

The classroom teacher (JB) and the writers are going over a moment in the script where one of the kids in the opera is about to stomp out of the clubhouse. JB asks a student to read aloud from the script as it stands in draft:

So (reading from the script as "Casey")

"Well I'm not chicken and I'm not going! Yay,"

Other students correct in unison: "Yeah."

Student continues to read from the script:

"She has been acting like a brat!"

Other student: "Isn't that in the wrong place?"

Teacher: "No. After uh... after uoohh!

Well, I wanna...Then...Okay.

Casey leaves here. Good. I'm glad you caught that... I missed that. Okay."

Teacher reads the corrected version of the script, checking it with the students:

"Let's go. C'mon. C'mon, chickens. Well, I'm not a chicken and I'm not going. Yeah."

Teacher asks "And then (referring to the need for better stage directions) Casey kind of storms out... instead of leaves...?"

Student: "In a temper tantrum..."

Other student: "Casey storms..."

Teacher: You like storms out...or...

Other student: Or blazes out...

Teacher: Blazes out. Okay. What's "blazing" telling the director?

Student: That he's furious...Like she's thinking "Why do I have to be in a club with a bunch of chickens?"

Teacher: Okay. So when the writers do their subtext, I think that's probably what the characters will say... Okay...Casey... We can put a little stage direction here. So do you think it should read "storms..."

Student: Storms out.

Teacher: Storms or blazes?

Other student: Blazes.

Teacher: Blazes isn't a word that we usually use for moving, but it works here. Okay.

Students call out simultaneously "zooms," "storms," "blazers," "zooms".

Teacher: Zooms just means to be fast but we don't want that...

(Student voices get louder, yelling "storms out", "blazes", "We want blazes", "Storms out! Storms out!")

Teacher: Storms out.

Student: She shuts slams the door and...

Student: Thunders out.

Teacher: Thunders out! [5]

An Evolving Meaning

A second type of collaborative discussion, one that evolves over time, occurs with increasing frequency as the opera work enters its final stages. It was evident in one classroom where students were creating an opera about how a test divides a group of friends into gifted and ordinary students. The students attend a school that uses such a test to select participants in a gifted and talented program, and the test is very much on every third graders mind. For dramatic effect the students create a character, Charlie, who comes from "away" and who is caught unawares by the test. Initially, they simply pick Kansas for his home, but over repeated conversations Kansas acquires an increasingly complex meaning within their opera.

Time 1: Informational view of Kansas

Students decide that the new kid, Charlie, who will be trying to get into a special school (like their own), should come from "Kansas," where they have opera pen pals.

Time 2: Kansas as signaling "outsider"

Writing the dialogue for the scene in which Charlie first appears, students build in all kinds of jokes about Kansas, such as the taunt: "We can kids from Kansas."

Time 3: "Home"

As work on the libretto continues, the conversation in class comes around to the parallels between Charlie's Kansas and the Kansas of Dorothy in *The Wizard of Oz*. Students return a number of times to discuss how both children have been carried away from a familiar life in Kansas to a place where they are strangers and face dangers. In Charlie's case, it is the danger of not passing the test to get into the gifted and talented program.

Time 3: Kansas Vs Oz

Much further on in the development of the opera, students are writing the lyrics to a song in which the kids from New Jersey at last welcome Charlie into their club. As they work on the lines to this song, they continue to think about what Kansas stands for in his life and in their opera. This section of the song is about what he will be able to do now that he is a member. (JB is the teacher, S stands for the several different students in the discussion.)

S: And now you can play baseball, even though you're not in Kansas.

S: You are in Emerald City

S: Yeah, like Dorothy in OZ.

JB: So what might Charlie find if he were in the Emerald City?

S: The scarecrow got a brain, the Tin Man got a heart.

JB: We can be pretty sneaky here. We still have the name of the town to choose. I think calling it Emerald City would be hitting them over the head.

S: Jewel City

S: Green City

S: Club City

S: No, we want to get them to think Kansas—green city, emerald, lessons. (6)

Time 4: Lost Kansas

After much discussion, students decide they want to end their opera with Charlie failing the test, but staying on in the community. The other students who once teased him mercilessly suddenly understand what it is to be an outsider. They also understand their community as exclusive. The students have been working on the reprise of a song from earlier in the opera. In a previous discussion, they had planned that Charlie would join the other kids in making fun of his old home. But at this moment the class develops a more nuanced meaning for Kansas as a place that Charlie (and they) have lost forever.

JB: Sings the first verse of the lyrics as they occur earlier in the opera.

S: Why not just keep the rest of the song?

JB: We could.

Ss: No, it's different now./ Uh-huh./ No.

S: Things have happened.

S: (suggesting a new version of a line)

"You've found a place to replace Kansas."

(Conversation about what Charlie is escaping).

S:(emphatic) No, I don't think so.

JB: Why not?

S: Charlie wants to return to Kansas—like Dorothy.

JB: Oh, so, they are consoling him?

It won't be so bad here?

S: He is not about to start saying bad things about his old home.

JB: Works on re-ordering lines.

Ss: Sing out different possibilities:

S: Now you know what Kansas is.

S: Now you know what Kansas really is

S: Kansas will always be in your heart. [7]

These instances suggest one of the reasons why students produce such strong work in the context of the opera and why opera learning might contribute to achievement in other tasks and domains. The company structure creates a setting in which students are expected to collaborate on matters of quality, and in which they learn to select the best from a wide field of possibilities. The sustained nature of the project means that these conversations need not be one-shot discussions of local matters. Since discussions recur over time, both questions of quality and of complex meanings, such as "Kansas" develop a long life.

In their exit interviews, children as young as third grade, when asked to write reviews of a video performance of the comic opera "Gianni Schicchi," spontaneously interpreted the many messages that that a performance can convey. For example:

The way (the greedy relatives) acted, they really expressed the characters they played. The scenes really fit their show. When all the relatives searched for the will, they tore the apartment to pieces, even the pillows. Feathers were flying everywhere. The way they moved, acted, and especially how they dressed. For example, the greedy fancy aunt, Zita, was dressed like she was so rich she only thought about money. And she acted like she was too good to even breathe the smoke from her cigarette (she had to have a long holder.) So get your tickets before they sell out. Remember, don't be fooled by no other. Go to see the real Gianni Schicchi near you. [8]

This data suggests that the work students do on their own operas can be applied more broadly. Students can extend their understanding of the many layers of meaning and the many modalities for conveying it to the work of others. It is robust enough to transfer. A next step in the inquiry would be to ask whether their opera work has given students a broad understanding of how artistic communication works, or enhanced their ability to understand that many messages have multiple meanings [9]. Are opera students better non-literal readers? If so, the kind of qualitative inquiry outlined here will have helped us to uncover a productive partnership between arts education and a fundamental human capacity.

CONCLUSION

Clearly we can demonstrate that arts education matters. We can show how, in the context of opera work, students collaborate often and effectively. But it is not enough to say "Opera work improves performance." We need to ask "What exactly is being learned?" Similarly, we need to ask *why* such effects occur. What is it about sustained and coherent collaboration that supports the development of a taste for more than convenient solutions or a capacity for understanding complex meanings.

Such questions are significant, for their precision carries us from knowing that the arts matter in education to understanding why and how they matter.

REFERENCES

- [1.] Parker, Francis W. (1894). *Talks on Pedagogics*. New York and Chicago: E. L. Kellogg & Co.
- [2.] Catterall, James S. (1998). *Involvement in the Arts and Success in Secondary School*. In *Americans for the Arts Monographs*, 1 (9); Cossentino, J. and Shaffer, D. (1999). The math studio: Harnessing the power of the arts to teach across disciplines. In *Journal of Aesthetic Education*, 33 (2), pp. 99-109; Heath, S.B., Soep, E., and Roach, A. (1998). *Living the Arts through Language Learning: A Report on Community-Based Youth Organizations*. In *Americans for the Arts Monographs*, 2 (7).
- [3.] Wolf, D. & Balick, D. (1994). *Evaluation of Creating Original Opera Program*. Harvard Graduate School of Education, 1994.
- [4.] Wolf, D. & Balick, D. (1994). *Evaluation of Creating Original Opera Program*. Harvard Graduate School of Education, 1994.
- [5.] Wolf, D. & Balick, D. (1994). *Evaluation of Creating Original Opera Program*. Harvard Graduate School of Education, 1994.
- [6.] Wolf, D. & Balick, D. (1994). *Evaluation of Creating Original Opera Program*. Harvard Graduate School of Education, 1994.
- [7.] Wolf, D. & Balick, D. (1997). *Evaluation of Creating Original Opera Program: Phase II*. Harvard Graduate School of Education.
- [8.] Wolf, D. & Balick, D. (1994). *Evaluation of Creating Original Opera Program*. Harvard Graduate School of Education, 1994.
- [9.] Goodman, N. (1983). *Languages of Art*. Indianapolis: Bobbs-Merrill.

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